The OIL WEEKLY

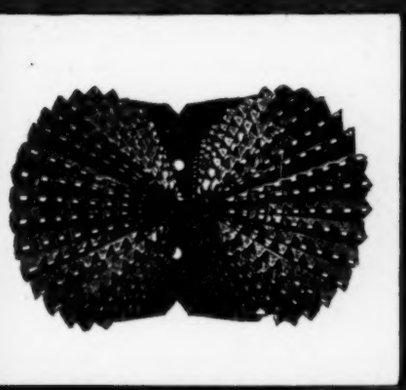
A Journal for
Oil and Gas Producers and Field Men

ADVERTISER'S INDEX
PAGE 19

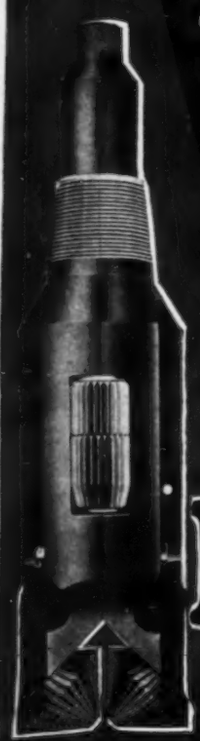
HOUSTON
LOS ANGELES
NEW YORK
FT. WORTH
TULSA
CHICAGO

VOL. 35. No. 12 DECEMBER 12, 1924 10 Cents Per Copy

HTH



HUGHES
Simplex Rock Bit
CONES
CRUSH & CHIP THEIR WAY
THRU HARD ROCK AT
MAXIMUM SPEED!



Hughes Simplex Rock Bits and Parts
Sold by Supply Stores Everywhere

HUGHES TOOL COMPANY
HOUSTON, TEXAS
BRANCHES: LOS ANGELES, OKLAHOMA CITY

STEEL SUPERIOR DERRICK

One of the Distinctive Features of Superior Steel Derricks

The Sleeve and Pilot Pin Joint

The joint is made up of a heavy steel sleeve casting which is permanently attached to the upper end of the leg section and a steel pilot pin casting which is pressed into the lower end of each leg section.

Both of these castings are designed with two lugs at the center, the lugs on the pilot pin fitting in between the lugs on the inside of the sleeve casting. Thus the ends of each section of pipe are reinforced both inside and outside, precluding any possibility of crushing or fracture of the pipe at the ends.

The locking feature obtained by the combination of lugs on the pilot pin and in the sleeve prevents the twisting of the leg members at the joints, and also insures perfect alignment of the leg sections.

The joint is stronger than the pipe from which the legs are made and any possibility of bending is therefore eliminated.

Ask the driller who has used one

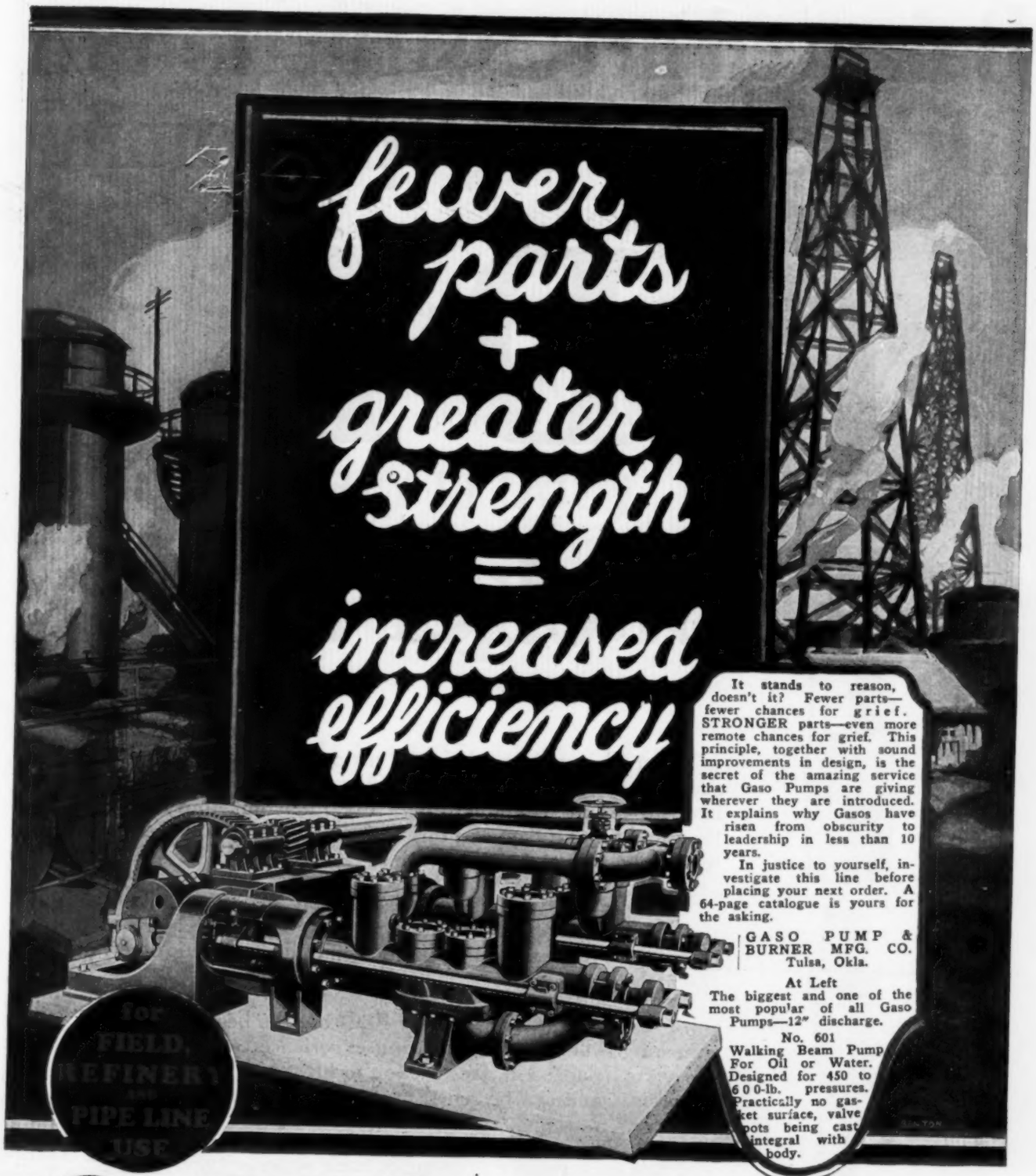
SUPERIOR TUBE COMPANY

STEEL DERRICKS—CASING—TUBING—LINE PIPE

Kansas City, Mo.

Pittsburgh Tulsa St. Louis Dallas Casper

THE OIL WEEKLY. Issued weekly by the Gulf Publishing Co., 1716 Dallas Ave., Houston, Texas. Subscription price $1.00 per year; 10 cents per copy. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879.



It stands to reason, doesn't it? Fewer parts—fewer chances for grief. STRONGER parts—even more remote chances for grief. This principle, together with sound improvements in design, is the secret of the amazing service that Gaso Pumps are giving wherever they are introduced. It explains why Gasos have risen from obscurity to leadership in less than 10 years.

In justice to yourself, investigate this line before placing your next order. A 64-page catalogue is yours for the asking.

GASO PUMP & BURNER MFG. CO.
Tulsa, Okla.

At Left

The biggest and one of the most popular of all Gaso Pumps—12" discharge.

No. 601

Walking Beam Pump For Oil or Water. Designed for 450 to 600-lb. pressures. Practically no gasket surface, valve pots being cast integral with body.

GASO PUMPS

for every oil industry need

Balanced in construction to lift the load & keep it coming

D & B

"QUALITY FIRST"

Sucker Rods

When all is said and done the critical test of a string of sucker rods is in actual service. A well pumping twenty-five strokes per minute brings the rods taut thirty-six thousand times a day, and this whipping continues day after day and month after month.

To successfully withstand this tension and the rod fatigue resulting from continuous pumping service, requires steel of the highest quality and design and construction of the highest order.

D & B Quality First Sucker Rods are the best that engineering skill, coupled with long experience can produce. They are balanced in construction to lift the load and keep it coming, and can be relied upon under all conditions of service.

Their performance is proof of their superiority.

D & B PUMP AND SUPPLY COMPANY

301 West Avenue 26, Los Angeles, California

Branch Factory: Love Aviation Field, P. O. Box 1033, Dallas, Texas.

Say you saw it in The Oil Weekly

Better Housing Actually Costs Less

In spite of the many superior qualities of Crain Ready-Cut Houses, their sturdy weather-proof construction, quality materials, and better appearance, they cost no more than inferior housing.

CRAIN SECTIONAL (PORTABLE) HOUSES

Actually Cost Less

than the cheapest carpenter-built shacks. This economy is due to lower erection costs, greater durability, and practically full salvage value.

Crain Ready-Cut Houses can be quickly assembled by unskilled labor, thus reducing erection costs to a minimum. Longer life is the result of sturdy construction of best materials. They can be quickly knocked-down, moved, and re-assembled on the next job, thus yielding fully 90% salvage.

Write for Catalog of Plans and Prices

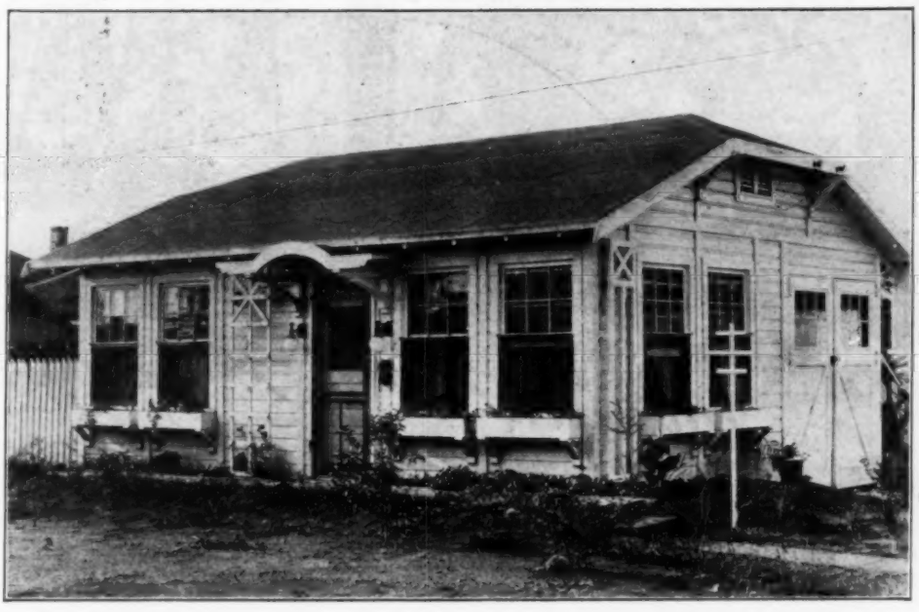
CRAIN READY-CUT HOUSE CO.

HOUSTON, TEXAS

Write for Catalog of Plans and Prices

CRAIN "OVER-NIGHT" SERVICE

Sectional houses for every industrial purpose, carried in stock at all times—and shipped immediately on receipt of order.



CRAIN "OVER-NIGHT" SERVICE

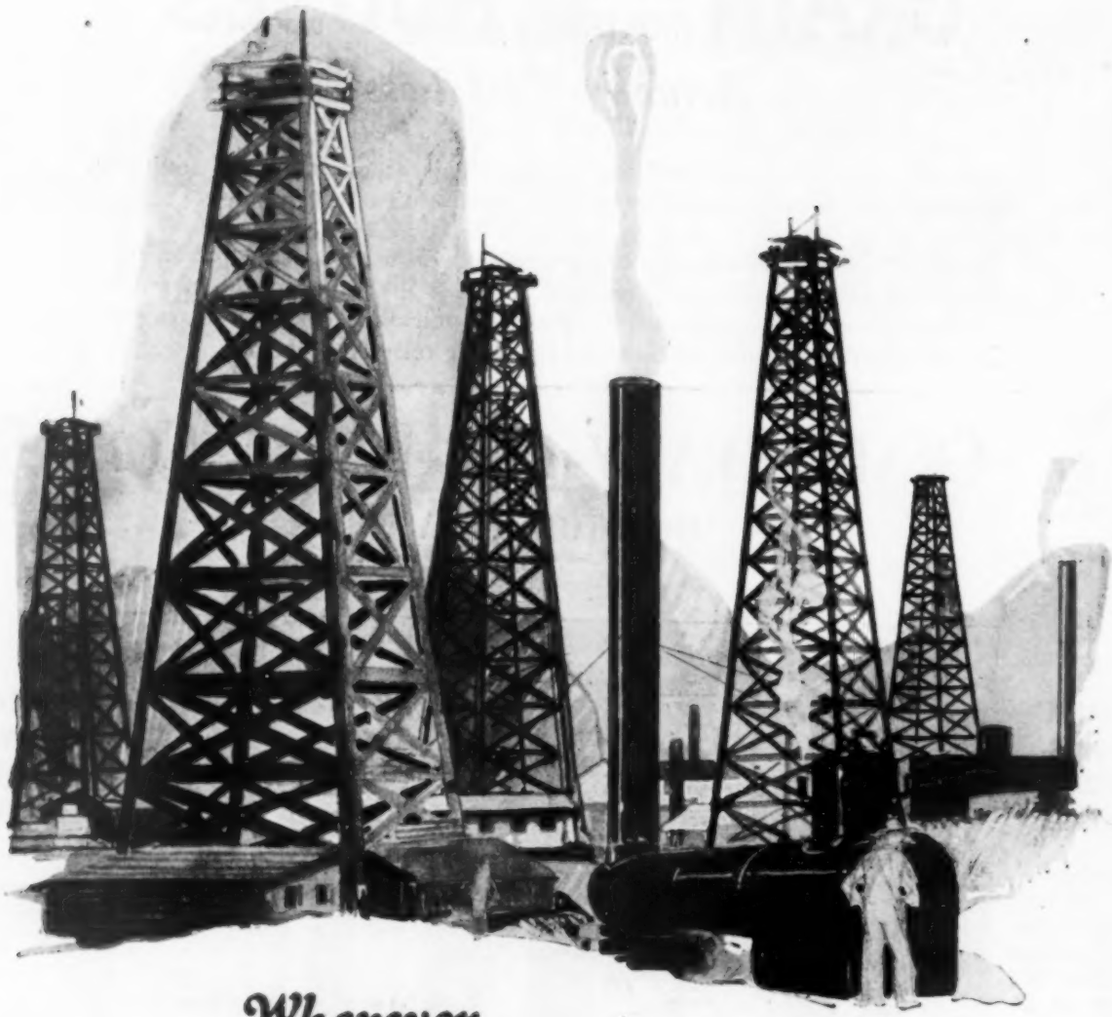
Sectional houses for every industrial purpose, carried in stock at all times—and shipped immediately on receipt of order.

Crain Sectional Houses For Industrial Purposes

Crain Ready-Cut Houses For Permanent Homes

Say you saw it in The Oil Weekly

LUCEY A.S.M.E.

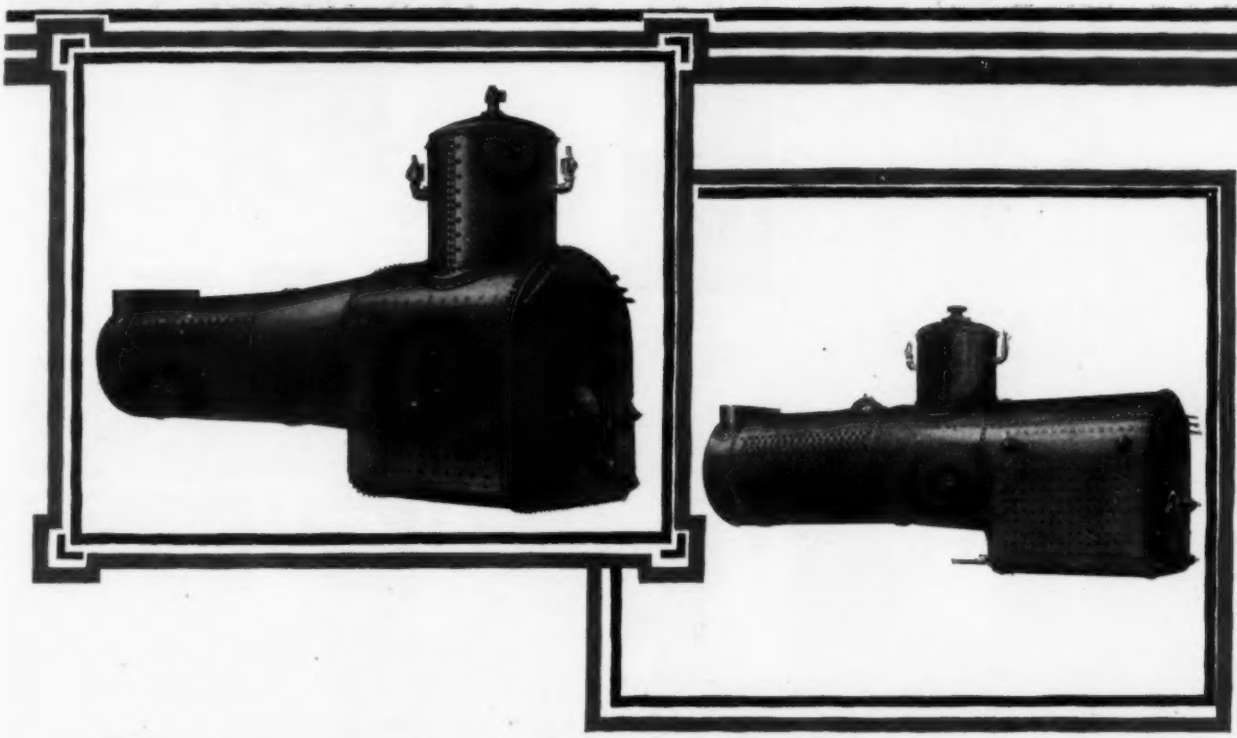


Wherever

THE NAME IS A LUCEY GUARANTEE

there's oil

BOILERS



Designed, Built, Tested and Stamped According to the A.S.M.E. Code

Lucey Oil Field Boilers are recognized as the leaders. They are noted for their steaming qualities and low fuel consumption.

They are built in strict accordance with the rules of the Boiler Construction Code of the American Society of Mechanical Engineers, and carry stamping in accordance with this Code.

All materials conform to the specifications approved by the American Society for Testing Materials.

All plates are drilled and shaped to standard dies and templates, and the flanging and riveting is done by hydraulic machinery.

All operations during construction and test are under the observation of a licensed inspector not in our employ, and a certificate of inspection is furnished with each A. S. M. E. boiler.

Built for either 125 or 150 pounds working pressure, and in sizes from 40 to 100 H.P. in either locomotive or tubular type.

Complete specifications are given in Lucey Boiler Circular No. 101. Write for it.

LUCEY MANUFACTURING CORPORATION

OFFICES:

New York Pittsburgh Los Angeles

BRANCHES:

Corsicana, Texas Eldorado Ark. Smackover, Ark. McKittrick, Cal. Tulsa, Okla. Tonkawa, Okla.
Shreveport, La. Coalinga, Cal. Taft, Cal. Beaumont Texas Healdton, Okla. Los Angeles, Cal.

WORKS:

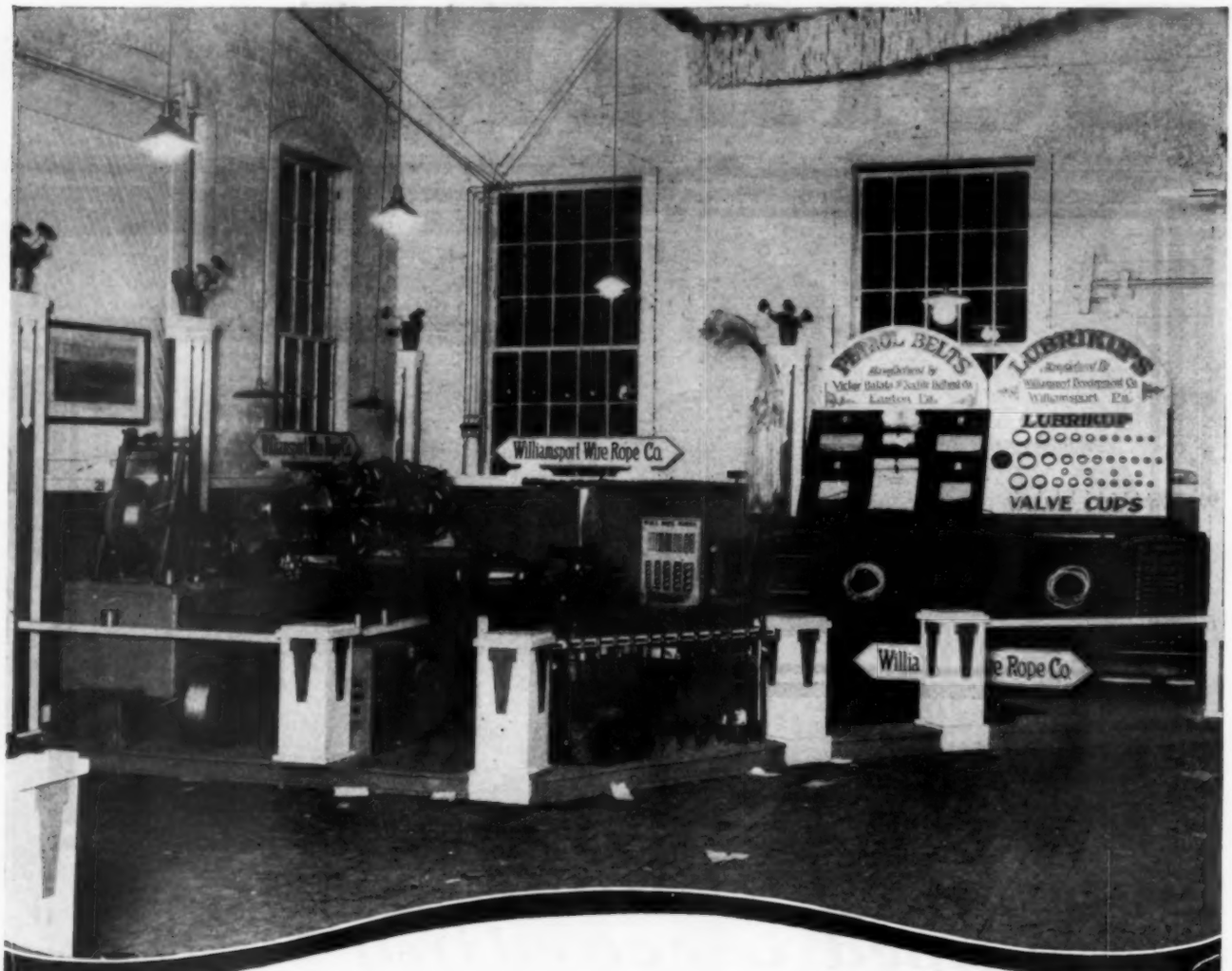
Chattanooga, Tenn. Houston, Texas

FOREIGN BRANCHES:

Tampico, Mexico London, England Soerabia, Dei Ploesti Roumania

AGENTS:

General Supply Company, Casper, Wyoming
International Supply Company, Stroud and Wewoka, Okla.



AN APPRECIATION!

To those of you who visited us at the Convention we reiterate our appreciation, and believe it afforded you an opportunity to clearly see, and verify, the advantages Williamsport Lines hold for you in their use.

We regret that other users of Wire Lines could not visit us at this time to see for themselves the outstanding superiority of

WILLIAMSPORT WIRE Telfax Tape Marked LINES

Williamsport Wire Rope Company

Main Office and Works: Williamsport, Pa.
Oil Country Sales Office: Kennedy Bldg., Tulsa

Houston	Shidler	Ardmore	Muskogee	Smackover	Shreveport	Ranger
Graham	Blackwell	Holdenville	Okmulgee	Arkansas City	Casper	Electra
Mildred	Cromwell	Bristow	Bartlesville	El Dorado	Lewistown	Wichita Falls

WILLIAMSPORT

Service In Every Important Field

Complete-Continuous Service!

in Oil Field Supplies & Field Equipment!

Republic Supply Co. Stores dot the Mid-Continent and Coastal Fields. - - - - - - - There is One near Your Well.

Twenty-four-Hour Service!!!

IN STOCK "ALWAYS"

Republic Iron & Steel Co.'s Tubing, Casing, Drive and Line Pipe.

Standard Seamless Tube Co.'s Seamless Upset Rotary Drill Pipe.

American Well & Prospecting Co.'s "Gumbo Buster" Rotary Equipment.

Jones' Acme Sucker Rods.

American Steel & Wire Co.'s and Broderick & Bascom's Wire Rope.

Hughes Tool Co.'s Hughes Rock Bits, Hughes Disc Bits and Hughes "Acme" Tool Joints.

Bovaird & Seyfang, and McNamar Oil Field Boilers.

Jones' Acme Gas Engines.

REPUBLIC SUPPLY CO.

Say you saw it in The Oil Weekly

KEROTEST

REGISTERED U.S. PAT. OFF.

The Giant Controlled

Nature's Giant Force powerless to wreck and destroy when controlled by KEROTEST VALVES.

From a Ravaging Monster it is turned to a willing and useful slave—by KEROTEST VALVES.

Those are not boastful words—but facts, proven time and again in the oil fields of Texas, California, Mexico and elsewhere.

The Electric Ilmenite Steel Castings used in their construction, the 24 hour Kerosene Test to which every valve and fitting is subjected, their great factor of safety, their perfect balance and positive action have made KEROTEST VALVES standard equipment for many of the leading oil companies.

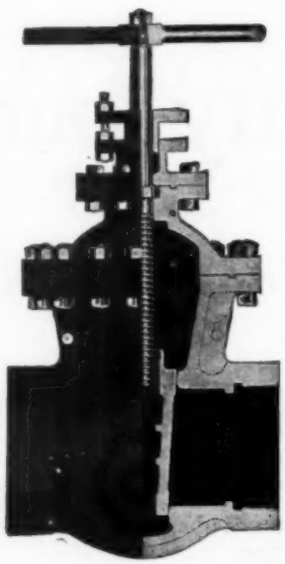
For High Pressure work—whether controlling a well on your pipe lines or in the refinery—use KEROTEST valves. They are safer and function perfectly.

The KEROTEST catalogue tells it in detail. Write for your copy.

Pittsburgh Reinforced Brazing & Machine Company

Pittsburgh, Penn.

KEROTEST



Carried in stock and sold by:

NORVELL-WILDER HARDWARE CO.—Houston, Beaumont, Shreveport

GRINNELL COMPANY of the PACIFIC—Los Angeles, San Francisco

Export Distributors

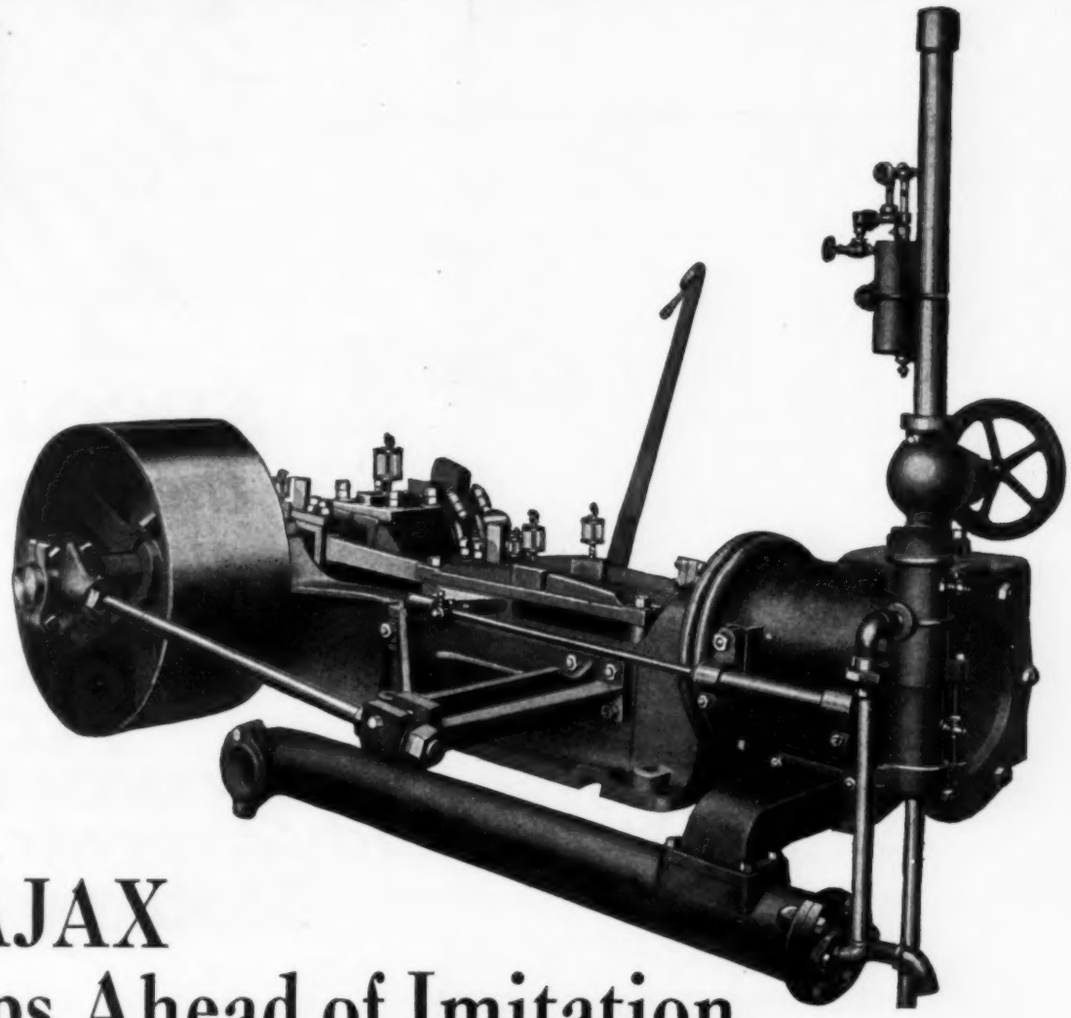
OIL WELL SUPPLY COMPANY

Pittsburgh

New York Tampico London

AJAX ENGINES

Reg. U. S. Pat. Off.



How AJAX Keeps Ahead of Imitation

The refinements which are constantly being made on the Ajax Engine are originally conceived in the oil fields by Ajax engineers. The credit for the design of the outboard bearing, the improved sight feed lubricator, the large oil pockets on eccentric straps and the recently improved reversing lever belongs to these engineers who are working in the oil field with Ajax engines under actual drilling conditions.

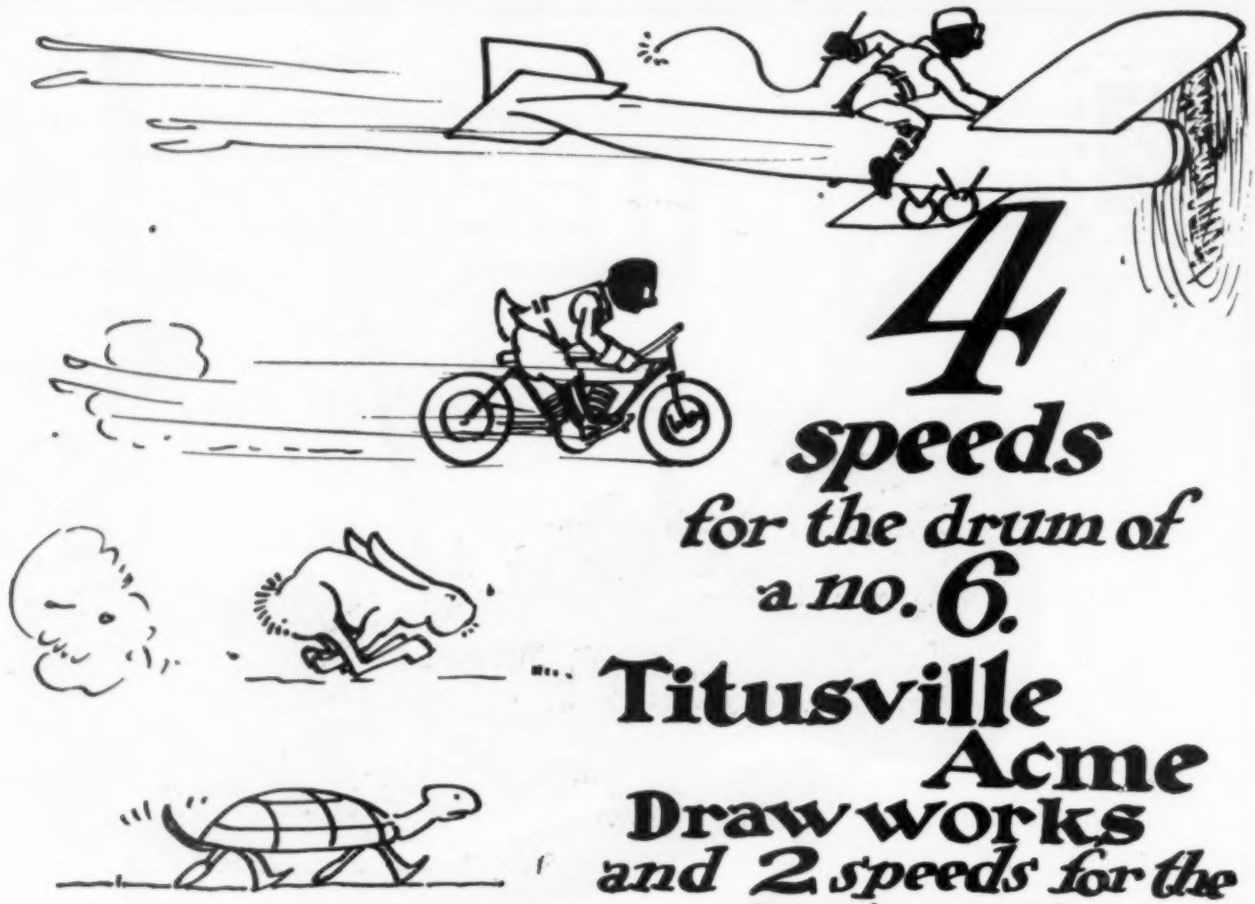
When overhauling or repairing your Ajax Drilling Engine, insist upon genuine replacement parts. They maintain original engine value.

Ajax Engines are manufactured by the Ajax Iron Works at Corry, Pa., and sold in every Oil Field by the National Supply Companies.

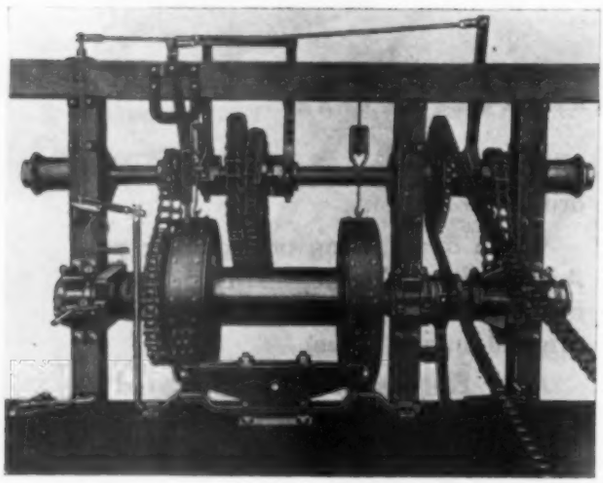
34118

AJAX DRILLING ENGINES

Insist on Genuine Ajax Replacement Parts



4 speeds for the drum of a no. 6. Titusville Acme Draw works and 2 speeds for the Rotary ~



The New Titusville Acme No. 6 Drawworks, showing the Brake Equalizer and non-spread Drum. Ask any Continental Supply man for particulars.

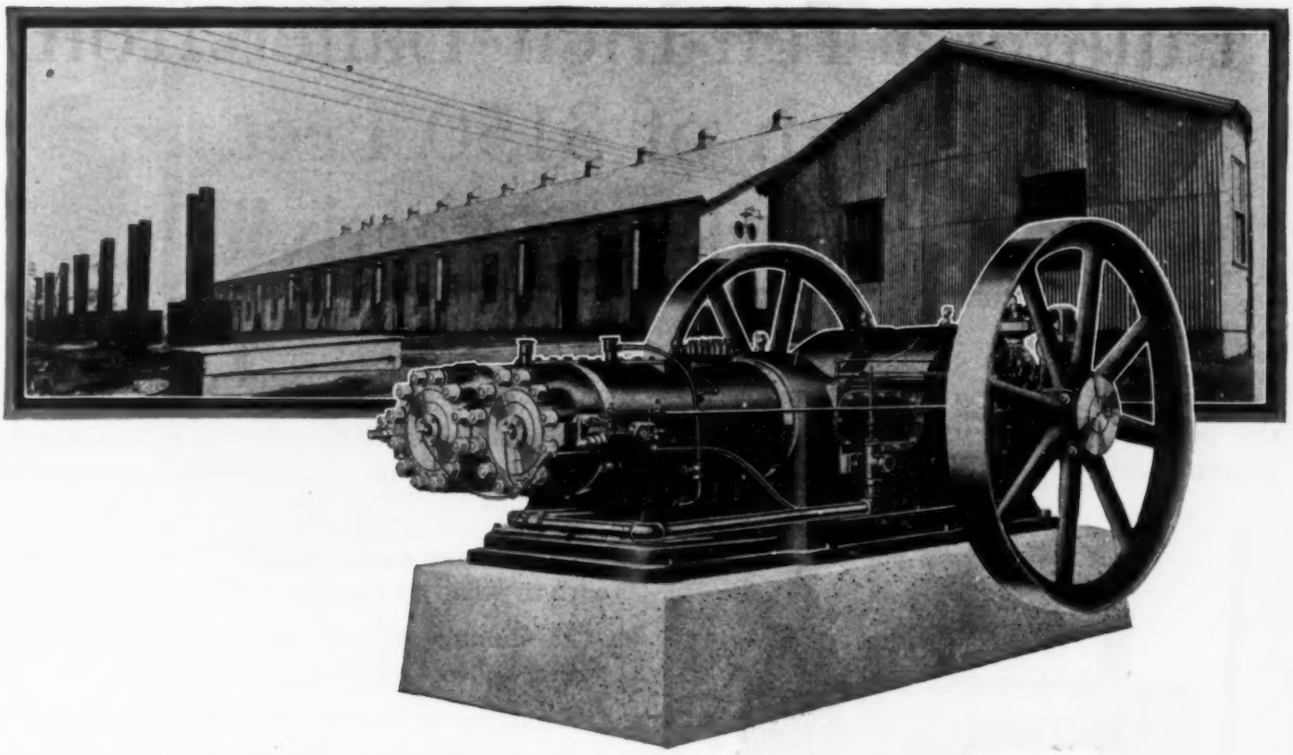
The TITUSVILLE IRON WORKS Co.
TITUSVILLE ~ PENNA.

TITUSVILLE EQUIPMENT
Oil Country Boilers
Steam Drilling Engines
Tico Gas Engines
Flapper Valve Pumps
Pumping Powers
Twin Drilling Engines
Rotary Machines Rotary Drawworks
Swivels Slush Pumps
Crown Blocks
Traveling Blocks
Rotary Drilling Specialties

TITUSVILLE OIL COUNTRY MACHINERY
RUGGED ~ ENDURING

AFFILIATED COMPANIES FOR DISTRIBUTION
For Mid-Continent, Eastern, Western and Coastal Fields:
The Continental Supply Co.
For California:
The Republic Supply Company of California
For Export:
The Continental Well Supply Company,
No. 2 Rector Street,
N. Y. City

Say you saw it in The Oil Weekly



"The Best Engines we have are Bessemers"

That was the comment of a big Bessemer user in conducting a party of visitors through one of their plants at Mooringsport, La. This user, an official of one of the world's largest oil companies, knows engines, as his company has tried them all under every conceivable operating condition.

When you buy a Bessemer you buy the longest service with the lowest upkeep cost.

Bessemers keep running long after other equipment is scrapped, and this added life continues to pay dividends long after their cost has been wiped off the books.

Thousands of users confirm our statement that *"You buy the Best when you buy the Bessemer."*

THE BESSEMER GAS ENGINE COMPANY
62 York Street Grove City, Pa.

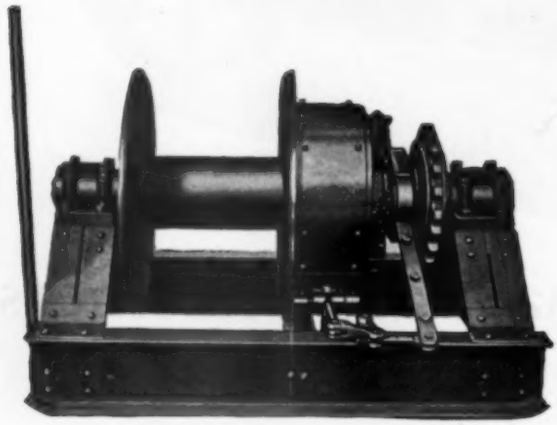
BESSEMER

BESSEMER OIL FIELD ENGINES – COMPRESSORS VACUUM PUMPS – ROLLER PUMPING POWERS

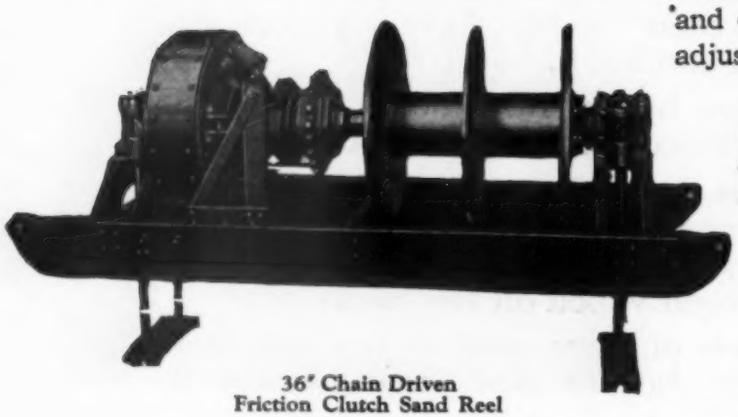
Say you saw it in The Oil Weekly

"Pulling a Ten-Inch Bailer from a Depth of 3150 Feet and works perfectly"

The above is taken verbatim from one of the many reports in our files, all indicating the perfect working of Parkersburg Chain Driven Sand Reels and Bailers.



26" Friction Clutch
Chain Driven Bailer



36" Chain Driven
Friction Clutch Sand Reel

And perfect working of these Machines means economy wherever they are used.

Economy of time because the bailing operation is speeded up to an almost unbelievable degree.

Economy of materials as there is no contact with or wear on the Band Wheel.

No damage to belt, and sand line is safely stored and protected.

Economy of human exertion because there is no necessity for the operator to spend all his strength in maintaining friction between Sand Reel and Band Wheel, nor does he have to contend with the usual jars and jolts.

The line includes a size and type for both Rotary and Cable Tool work and for depths of from 500 to over 3000 feet.

Installation is simple and operation is easy and does not require constant attention and adjustment.

Let us tell you more regarding these perfected, durable, efficient and above all—economical Machines.

Ask for Booklet "Cut Your Bailing Time in Half"

The PARKERSBURG RIG & REEL COMPANY

Main Office and Works, Parkersburg, W. Va. ***New York Office,*** 30 Church St.

California Representatives, BUCK & STODDARD
485 California St., San Francisco, Calif.; Box 720, Arcade Station, Los Angeles, Calif.

District Offices and Distributing Warehouses from which Parkersburg Service is available

TEXAS
*Houston
Breckenridge
Corsicana
Iowa Park
Luling
Orange
Ranger

WYOMING
*Casper

LOUISIANA
*Shreveport
Haynesville
Cotton Valley

KANSAS
Eldorado
Madison

WEST VIRGINIA
Parkersburg
Clarksburg

OKLAHOMA
*Tulsa
Bristow
Drumright
Holdenville
Hominy
Okmulgee
Wetumka
Tonkawa
Wilson
Shidler
Stroud
Wewoka

ARKANSAS
*El Dorado
Louann
Smackover
McNeil

MONTANA
Sunburst

COLORADO
Denver

*District Offices

"Now We Buy Gate Valves on a Basis of Longer Life at Lower Cost"

THUS spoke the purchasing agent of a prominent refinery. "For longer than I care to remember, all gate valves to me were **just gate valves.** When new installations were needed we shopped around for prices and the order went to the lowest bidder. Then when ill-fitting seats began to leak and parts wear out, necessitating replacements, we blamed not any particular gate valve, but all valves in general.

"Now we O.K. the valves before we O.K. the order. We know that Darling Gate Valves cost slightly more by the valve but far less by the year of service. We know that their ability to stay tight, their ease of operation and long life without repairs or replacements make Darling Valves a true economy."

Others are realizing a big saving by using the right kind of valve—you can do it, too. Let us send you diagrams showing details of construction. Sent upon request together with catalogue.

DARLING VALVE & MANUFACTURING COMPANY
WILLIAMSPORT, PA.

New York Chicago Oklahoma City Houston

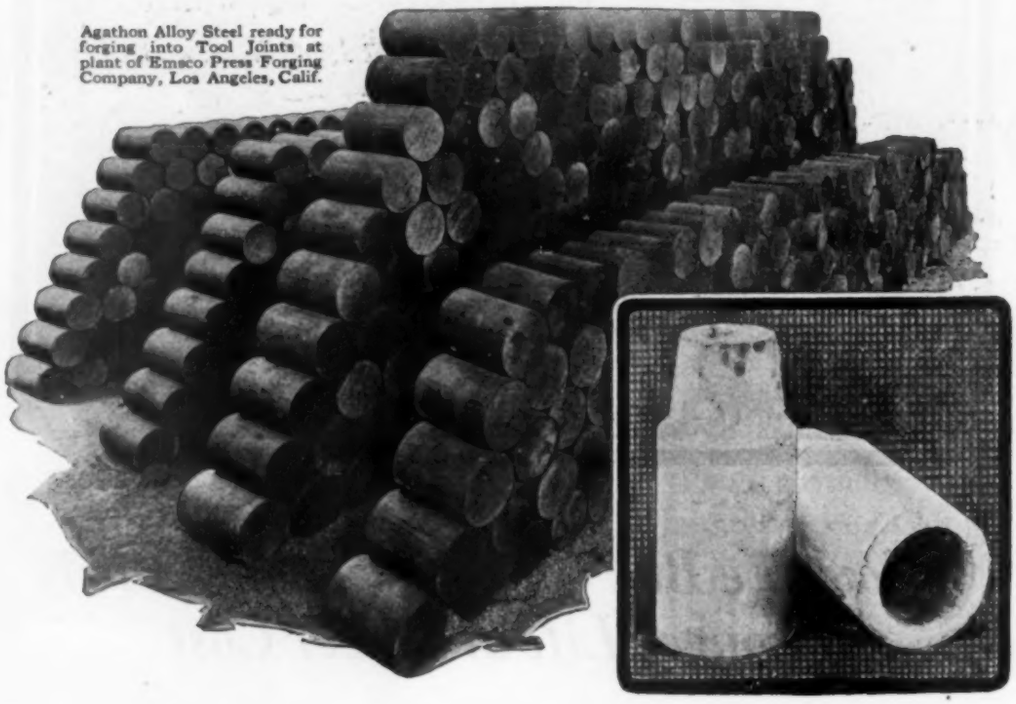
Mid-Continent Distributors:
Frick-Reid Supply Co., Tulsa and branches. Atlas Supply Co., Muskogee and Fort Worth
International Supply Co., Tulsa and branches Petroleum Supply Co., Houston

California Distributor:
Petroleum Equipment Company, Los Angeles

DARLING

DARLING
GATE VALVES

By Invitation Member



Agathon Alloy Steel ready for forging into Tool Joints at plant of Emsco Press Forging Company, Los Angeles, Calif.

And For Tool Joints, Too

A FEW years ago Agathon Alloy Steels were little known in the oil-drilling industry. Finally these tough, super-steels were adopted for drill bits. Their highly successful performance in this service has resulted in their general adoption for Tool Joints, Jars and other parts of oil-drilling equipment subjected to great wear, stress or strain. If you are not acquainted with Agathon Alloy Steels, send for our interesting booklet. If you have a steel problem, our metallurgists will help you solve it free of charge. Write us.

AGATHON STEELS

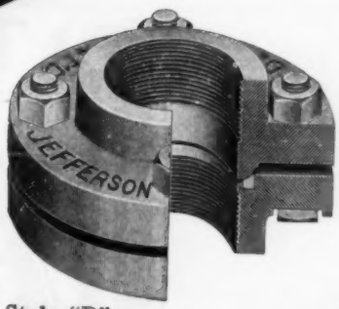
THE CENTRAL STEEL COMPANY, Massillon, Ohio

Swetland Bldg., Cleveland
Aeolian Bldg., New York
Book Bldg., Detroit
University Block, Syracuse
Peoples Gas Bldg., Chicago
Widener Bldg., Philadelphia

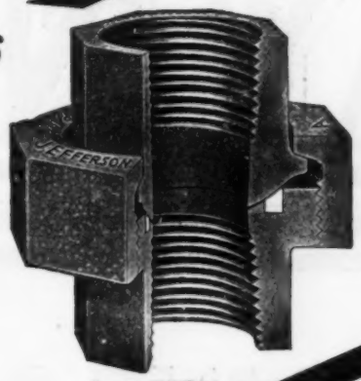
AGATHON ALLOY STEELS

Jefferson

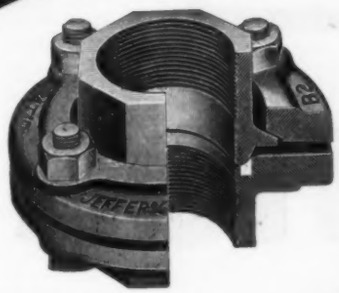
Unions and Flanges



Style "D"



Style "A"



Style "B"

NOTE THEIR GROUND-BALL, BRASS-TO-IRON JOINTS—ABSOLUTELY TIGHT

"BE SURE IT'S A JEFFERSON"

"LOOK FOR THE NAME ON THE NUT"

The Jefferson Union Company set out to make PERFECT Unions and Flanges,—and users tell us they have succeeded.

All "Jeffersons" possess ground-ball joints, which permit adjusting when pipe is out of alignment. All are ground together in pairs and never separated afterwards.

All possess the brass-to-iron feature, preventing corrosion,—and the brass ring is set away from the runway where it cannot be dislodged no matter how far the pipe is screwed into the fitting.

You can't go wrong, if you order "JEFFERSONS".

"If CONTINENTAL Sells It, There is No Better"

QUALITY SERVICE PRICE

THE CONTINENTAL SUPPLY CO.

General Offices: St. Louis
Export Office: 2 Rector St., New York
London Office: Finsbury Court, Finsbury Pavement, London E. C. 2, England

MORE THAN 70 STORES IN THE OIL COUNTRY

CONTINENTAL

Say you saw it in The Oil Weekly

THE LAYNE

ORGANIZATION

Desire to extend to you
their sincere wishes for

A Merry Christmas

and a

Happy and Prosperous

New Year

Layne & Bowler Company
Houston, Texas

INDEX TO ADVERTISERS

A

Acme Oil & Drill Company, Inc. ..... *
Ajax Iron Works 11
Alamo Iron Works 76
American Cable Company ..... *
American Tank Company ..... *
Axelson Machine Company 40

B

Baash-Ross Tool Company 61
Baker Casing Shoe Company 68
Baldwin Chain & Manufacturing Company.. *
Barnickel, Wm. S., & Company ..... Inside back cover
Bessemer Gas Engine Company 13
Black, Sivalls & Bryson, Inc. 38
Boykin Machinery & Supply Company ..... *
Bradford Motor Works 59
Brandon, A. H. 65
Bridgeport Machine Company..... Back cover
Brownell Company ..... *
Brown Welding & Machine Company..... 77
Buckeye Traction Ditcher Company ..... *
Burns Tool Company ..... *
Butler Manufacturing Company ..... *
Byers, A. M., Company ..... *

C

Cameron Iron Works ..... *
Central Steel Company 16
Colonial Steel Company 72
Columbian Steel Tank Company ..... *
Columbus Sucker Rod Company, The..... *
Connolly Agency, D. F..... 50
Continental Supply Company 17
Crain Ready-Cut House Company 5
Cunningham Company ..... *

D

D. & B. Pump & Supply Company 4
Darling Valve Manufacturing Company..... 15
De La Vergne Machine Company..... *
Deane, Early 77
Detlor, W. Edson ..... *
Dewey Friction Wheels Company ..... *
Deussen, Alexander 79
Donoghue, David 79
Drake, C. F. ..... *
Dunn Manufacturing Company ..... *

E

Elliott Core Drilling Company ..... *
Emsco Steel Products Company..... *
Everett, R. B., & Company..... 73

F

Fort Worth Laboratories 77
Foster & Reiter 79
Franklin Valveless Engine Company ..... *
Frick-Reid Supply Company 78

G

Gantz Tank Company ..... *
Gaso Pump & Burner Mfg. Company 3
General American Tank Car Corp..... *
Gott, H. P., Manufacturing Company..... *
Gould Burner Company ..... *
Goulds Manufacturing Company 68
Graver Corporation ..... *
Guiberson Corporation 45
Gulf Coast Machine & Supply Company.... *
Gulf Refining Company 86

H

Halliburton Oil Well Cementing Company.. *
Hardway & Cathey 79
Harrisburg Pipe & Pipe Bending Company.. *
Heydrick Mapping Company 77
Hirsch & Hannay 79
Hope Engineering & Supply Company..... 80
Hopkins, Edwin B. 79
Hough Manufacturing Company, Charles N. 60
Hughes Tool Company..... Front cover
Humble Oil & Refining Company..... 83

I

International Derrick & Equipment Company *
International Supply Company ..... *
Iron King Manufacturing Company..... 66

J

Jarecki Manufacturing Company ..... *
Jensen Bros. Manufacturing Company..... 73
Jones Company, S. M. 36

K

Kansas City Hay Press Company..... 73
Kansas City Structural Steel Company..... *
Keystone Driller Company 70
Keystone Pipe & Supply Company..... 68

L

Lancton, F. C. 79
Layne & Bowler 18
LeBus Rotary Tool Works ..... *
Lockett, A. M., & Company ..... *
Lotto, F. ..... *
Lucey Manufacturing Corporation 6-7
Ludlow Valve Manufacturing Company..... *
Lufkin Foundry & Machine Company ..... *

M

MacClatchie Manufacturing Company ..... *
Magnolia Petroleum Company ..... *
Maloney Tank Manufacturing Company 52
Marion Machine Foundry & Supply Company 30-31
Moore, Lee C., & Company 34

N

National Supply Companies 71
National Transit Pump & Machine Company 20
National Turnbuckle Derrick Company..... 54

O

Oil Conservation Engineering Company..... *
Oil Well Supply Company 55
Osage Agency 75

P

Pacific Oil Tool Company ..... *
Palmer Specialty Company ..... *
Parkersburg Rig & Reel Company..... 14
Pattin Bros. Company ..... *
Peden Iron & Steel Company..... 74
Pelican Well Tool & Supply Company..... 48
Petroleum Rectifying Company..... 64
Petroleum Supply Company ..... *
Pioneer Tank & Boiler Company ..... *
Pittsburgh-Des Moines Steel Company..... *
Pittsburgh Reinforced Brazing & Machine Company 10
Powell Company, The Wm. ..... *

R

Ratigan, J. P. ..... *
Reading Iron Company ..... *
Reading Steel Casting Company ..... *
Regan Forge & Engineering Company 62
Republic Supply Company 9
R. F. Electrical Manufacturing Company.... 76
Reschke Machine Works ..... *
Rex Tools ..... *
Ring, Dewitt T. 79
Robinson, Heath M. 79
Robertson-McDonald Lumber Company..... 70
Robinson Packer Company ..... *
Rock Island Plow Company 56

S

Safety Pulling Machine Company..... 64
Schley, Jack A. 79
Shaffer Tool Works ..... *
Sinclair Refining Company 33
Smith Separator Company ..... *
Sour Lake Machine & Supply Company..... 75
South Chester Tube Company ..... *
Southern Brass Manufacturing Company.... 76
Southern Engine & Pump Company..... *
Spence, H. M. 74
Spengler Core Drilling Company ..... *
Standard Engineering Company 88
Stanley Belting Corporation ..... *
Star Drilling Machine Company ..... *
Steel Coupling Company ..... *
Stone, Jesse R. 79
Sullivan Machinery Company 69
Superior Tube Company .... Inside front cover

T

Texas City Terminal Railway Company..... 76
Texas Company, The 88
Texas Oil Pump Company ..... *
The Titiusville Forge Company..... *
The Titusville Iron Works 12
The Tyler Tube & Pipe Company..... 70
Trumble Gas Trap Company..... *
Twin City Company ..... *

U

Union Natural Gas Co. of Canada..... 79
United Iron Works 75
United States Torpedo Company..... 61

V

Vinson, Elkins & Wood 79

W

Ward Chemical Company ..... *
Waukesha Motor Company ..... *
Webster, C. W. 77
Westcott Valve Company, The ..... *
Western Machinery Company 85
Westinghouse Electric & Mfg. Co..... *
Williamsport Wire Rope Company 8
Wilson Oil Tools Corporation..... 61
W-K-M Company, Inc. ..... *
Wyatt Metal & Boiler Works ..... *

Y

Yale & Towne Company..... *

*Printed in one or more issues of each month.

THE FIELD PUMP OF TODAY

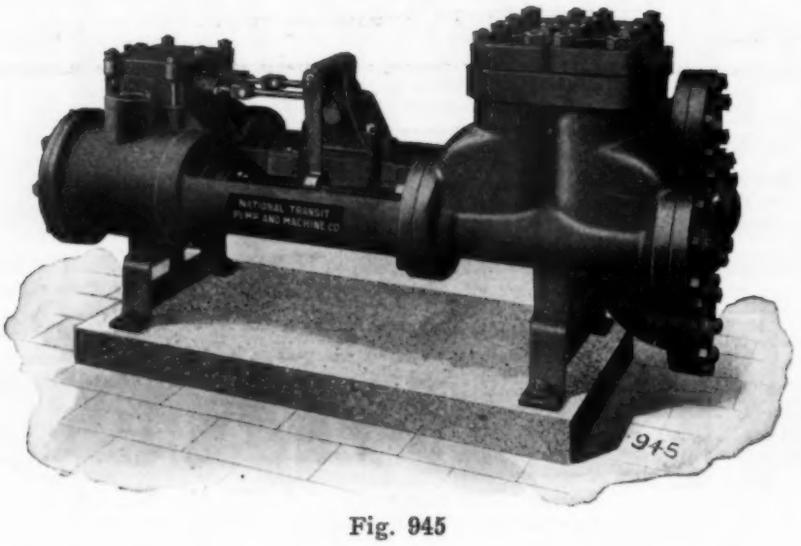


Fig. 945

10x4½x10" VALVE POT TYPE
TRANSIT PUMP

A pump that is hauled out in the country, dumped off a truck, hurriedly connected up, and set to work in the open with very little care or attention necessary, is generally called a "Field Pump." That is, if it stands the racket. If it don't, lease operators and roustabouts supply their own names.

The pump illustrated above has come to be looked upon as a super Field Pump by some of the largest producing and pipe line companies in the field. Its rugged construction, its larger capacity of 80 to 120 barrels per hour, and its higher working pressure of 400 to 650 pounds, overcome many of the limitations of the ordinary field pump.

Our new Bulletin 105-A describes these pumps.

NATIONAL TRANSIT
Pump & Machine Company

OIL CITY, PA.

District Offices: New York, Philadelphia, Pittsburgh, Cleveland, Tulsa, Houston, Denver

DEC 13 '24 © CIB646216

THE OIL WEEKLY

An International Oil Publication for Oil and Gas producers

Offices:
NEW YORK, LOS ANGELES, CHICAGO, FT. WORTH, TULSA

Published weekly by
Gulf Publishing Company
HOUSTON, TEXAS

Established 1916
Member of the Audit Bureau of Circulations
SUBSCRIPTION RATES:
$1.00 *per year* ~ *Foreign* $2.00 *per year*

A. L. BURNS, *General Manager*

R. L. DUDLEY, *President and Publisher*

SPENCER W. ROBINSON, *Editor*

Vol. 35 **FRIDAY, DECEMBER 12, 1924** **No. 12**

Bid For Wortham Oil Holds Market Interest

Active competition for prospective production; premiums paid for spot crude in Mid-Continent

MAJOR crude purchasing agencies of the Mid-Continent district with pipe line carriers in the new Wortham field are making a bid for the flush production that is expected to follow the active drilling campaign now getting under way. Seven carriers are represented in this new field with a combined line capacity in excess of 160,000 barrels daily, and a market for every barrel of oil produced is in sight, as some of these major crude buyers are contemplating tank farms near the field to handle crude offered in excess of line capacity, while tank car loading racks are being spotted at advantageous points on the two nearby railroads should an emergency exist. More than three million barrels of steel tankage is planned for the field by prospective producers and crude buyers to store oil in anticipation of a material increase in crude prices shortly after the peak level in production is reached at Wortham.

Since water for drilling purposes is the principal drawback for the majority of the small lease owners in conducting an intensive drilling campaign from the very start, several of the major companies, who are without protection in the field, have converted their oil carriers into water lines and offering water to prospective producers as an incentive to contract for crude connections. All the pipe line companies have one or more representatives engaged in soliciting crude, and the promise of an ample water supply serves indirectly as a premium in obtaining connections. Some of the crude buyers are guaranteeing pipe line service to a limited number of prospective producers in the event of an over-production in the field.

Prairie-Boyd Deal

Evidence that a break in the posted price of Wortham crude, which is now $1.25 per barrel, is not to be expected is seen in the Prairie Oil & Gas Company's contract with the Boyd Oil Company, whereby Prairie agrees to take three million barrels of Wortham crude at a fixed price of $1.25 per barrel. Prairie is to advance the Boyd Oil Company, which is the owner of the first two wells completed in the field, $1,000,000 on January 1, 1925, on this contract to use in developing leases, and is to obtain three-fourths of the daily production of the Boyd Oil Company, with a maximum purchase of 30,000 barrels daily. The Sinclair Crude Oil Purchasing Company is also reported to be making a deal to buy one million barrels of crude from J. K. Hughes at a fixed price.

Whether the Wortham field will live up to the threat that it has hurled at the Mid-Continent crude market will be determined within the next ten days by the completion of several tests now nearing the pay sand in advance of production to the north, and some of the lease owners are inclined to proceed with their development program in a cautious manner until the structure is proven over a larger area. Although the discovery well was brought in November 22, with an estimated flow of 2000 barrels daily, and the second well

Table of Contents

SPECIAL FEATURES

	Page
A. P. I. Meeting at Fort Worth	23
Mechanics of Flowing Wells	27
Burbank Field Considerably in the Red	41
Dressing and Tempering of Drilling Bits	25
Bid for Wortham Oil Holds Market Interest	19
Oklahoma Production Leveling Out	47
California Yield Shows Slight Increase	43
Wortham Test Discourages	49

REGULAR FEATURES

Production Tables for All Fields	44
Completions in All U. S. Fields	57
Field Notes and Reviews	43
Imports at Principal U. S. Ports	46
Permits for New Wells	63
Wildcat Drilling Reports	67
Crude Oil Price Quotations	32
New Equipment—Bulletin—Books	81
Letters of Paul Peebles	84
"Squeaks" From the Bull Wheel	87

The OIL WEEKLY wants only such subscribers as are engaged in the oil producing or pipe line business, or sub-branches of the producing and pipe line business. It has no desire for investor circulation, and it reserves the right and will exercise the right to reject subscriptions coming from persons whose interest in the oil industry is through the purchase of oil stock.

R. L. DUDLEY, Publisher.

completed November 27 with an estimated flow of 12,000 barrels daily, based on the first half hour gauge with open flow, the Wortham field had not produced above 60,000 barrels total at the close of the past week. The big well is choked, owing to the heavy gas pressure accompanying the flow of oil, and has not produced in excess of 6000 barrels on any single 24-hour gauge, while the discovery well is off more than 50 per cent of its official initial production. Prairie is running the entire production from these wells, and is equipped to handle considerably more than that now being produced.

The wild scramble for prospective production at Wortham is responsible for the disturbing influence on the Mid-Continent crude market, rather than what the first two wells have produced, and an upset in the early predictions as to the importance of this field will undoubtedly be followed shortly afterwards with an advance in crude prices. The crude market was generally considered at the threshold of higher prices when clouds were cast on the horizon by the strike at Wortham, and the trend of the market during the next month largely depends upon the results obtained in this new field.

Refined Market Advances

The refined markets have not been influenced to any great extent, and prices have advanced noticeably, with prospects of a further improvement by reason of plants being sold up over the balance of the month and into the first half of January. North Texas and Shreveport refining centers have been literally cleaned of all gasoline stocks for some weeks, and heavy buying of new navy gasoline by the Gulf Refining Company, The Texas Company and fifty odd cars by Magnolia Petroleum Company, sent prices to 9¼ cents and above. These three major gasoline distributors are not included in the regular customers of the independent refiners in North Texas and Shreveport districts, and their appearance in the market in the face of rising gasoline prices quoted by independent refiners as orders began stacking up is accepted as favorable indications of higher prices on both crude and refined oils in the near future. Most of this gasoline is for distribution over the Southwest, and only a small quantity is being moved to the Coast, thereby indicating that these three major gasoline distributors are holding back their stocks for higher prices, or having more orders on hand than can be filled from their various refineries.

These heavy buying orders for gasoline along with Wortham's influence on the crude market has reacted in the favor of the independent refiner to the extent that profits on plant operations have probably been greater during the past six weeks than has been experienced over any period of time in several years. Failure of the crude market to advance early in December held premiums in check to a certain extent, and considerable storage oil was placed on the market because of the delay in crude advances.

Crude in Demand

Crude is still in great demand at posted prices by all major companies, while refiners are offering premiums ranging from 5 to 25 cents per barrel on spot crude, and daily runs are being paid a bonus averaging about 10 cents per barrel.

The Texas Pipe Line Company has renewed its campaign for more crude in North Texas, and is building 22 miles of 6-inch line from the Wilmot-Wilson field to Southern Archer county to make a bid for the new flush offered by this section of the county.

Production in the Big Lake field, West Texas, is being restricted on five of the largest flowing wells in this new gravity oil producing area, and two tests held on top of the pay until more tankage can be prepared. Marland Oil Company of Texas has contracted to take and purchase a fixed amount of production daily from the two concerns holding the producing acreage, but will not have its tankage ready until late this month.

Helpful Influence

The fact that possibilities of intensive development at Wortham in Central Texas may ward off any advance in Mid-Continent posted price schedules until after the first of the year in the end will react to the benefit of the industry. This is an opinion that is not openly acknowledged so much as it is inwardly admitted by well informed oil men. A continuation of the present price level will help to insure a stabilized crude market for the beginning of 1925, and should in turn favorably influence the refined oil market for next year.

Crude oil continues in active demand in all sections of the country save in the Rocky Mountain region, where crude takings have been shortened on account of weather conditions that ordinarily prevail in that section at this time of the year and also on account of the relatively slow movement of gasoline from refining centers in that area.

In Oklahoma independent refiner buyers are raising their premiums on light oil of good gravity. The latest upward tendency in prices on spot crude is reflected in the announcement of the Globe Oil & Refining Company of Blackwell, Okla., which company has offered a premium of 25 cents a barrel for Tonkawa crude, or a total of $1.50. The highest previous price for Tonkawa oil was $1.45, announced some time ago by the Champlin Refining Company, one of the largest independent buyers in the Mid-Continent of high gravity oil. It is believed Chaplain will meet this new advance if the company has not already met it in the case of its present connections in that field.

Marland Contracts

Marland Oil Company has just closed contracts for its crude output for 1925 that will approximate 25,000,000 barrels, a company announcement says. The largest buyer that Marland will sell to next year will be the Standard Oil Company (New Jersey) acting through the Carter Oil Company. This deal will involve around 11,000,000 barrels and may be termed a sort of renewal contract as Marland has been selling to Carter Oil Company a portion of its 1924 crude output. Marland also will sell Mid-Continent crude to the Atlantic Refining Company, approximating 2,000,000 barrels in 1925, and to Cosden & Company and the British American Oil Company, the deals involving about 1,000,000 barrels each. A deal now is pending between Marland and a large company in Texas involving around 7,000,000 barrels of crude during 1925. All contracts for crude being closed by Marland are at posted prices at time of delivery.

Indicative of the increased demand for crude in the north and east, the deliveries of the Prairie Pipe Line Company for November of this year exceeded those of October by more than 250,000 barrels, the total for November being 3,502,938.37 barrels. The closing of the contract by the Prairie Oil & Gas Company for 3,000,000 or more of Wortham crude in the event it is produced by the Boyd Oil Company, is regarded in other sections of the country as presaging stationary crude prices during the remainder of the year.

Situation in East

In the Appalachian region crude oil producers have decided to fight back at the action of the National Transit Company, which crude handler last week announced an embargo on all oil run by the company except such as intended for immediate shipment. This step has been necessitated by the crude storage situation in Northwestern Pennsylvania, where tanks of pipe line companies have reached their capacity due to the unwillingness of producers in that area to dispose of their crude at present price levels. In some sections premiums ranging as high as 50 cents a barrel are being paid for production in Pennsylvania. As a consequence of the action of the National Transit Company, whose decision may influence other crude handlers in that region, the Venango County branch of the Pennsylvania Oil & Gas Men's Association has called a meeting for the latter part of this week to consider means for relief.

An increase in the posted price schedule in the Appalachian region has been expected for some time and indications are that such an increase if put into

(Continued on page 56.)

Standardization Progresses at A. P. I. Meet

Industry's leaders gathered at Fort Worth reveal that movement is nearing consummation

By Grady Triplett
Staff Representative

Ft. Worth, Texas, Dec. 9.—Standardization of oil field equipment, started three years ago, has made its greatest step forward at the annual meeting of the American Petroleum Institute, whose sessions opened here today, closing Thursday of this week.

While all sub-committees on standardization will not file complete reports at the present meeting, C. A. Young, Director of Standardization for the institute, said the progress made at the sessions would result in the work, as now attempted, being completed during the present year. This will mean final reports by the next session of the institute, with possible ratification at that time.

The status of equipment standardization at present is:

Two committee reports completed and published by the institute. Two reports presented to the institute. All other committees shaping their work for its completion during the coming year.

Specifications Published

The specifications already published by the institute are on steel and iron pipe for oil country tubular goods and dimensional standards of cable drilling tool joints. Both these reports were given to the Board of Directors of the institute October 20. They were printed and distributed during the Fort Worth meeting of the institute.

J. Edgar Pew, vice-president of the Sun Oil Company, headed the committee on tubular goods. He has been elected chairman of the central committee on standardization. The late Grant Hubley headed the committee on the cable tool drilling joint. Following his death, John T. Kirby was chosen head of this committee. While the reports of both these committees have been adopted by the institute, the committees are being kept active, as they may be instrumental in furthering the work of standardization by inducing manufacturers to adopt patterns to comply with the specifications recommended.

The committee of the standardization of rig irons completed its work at the session previous to the opening of the institute and presented it to the directors Wednesday. Recommendations of this committee are that the sizes of rig irons be restricted to three, a fifty per cent reduction; while three sizes of sand reels be adopted to replace the twenty-three sizes now offered. This committee is headed by H. J. Lockhart.

Under the leadership of Captain J. F. Lucey, the committee on the simplification of rotary drilling equipment, brought its work to completion but no time was fixed for presenting it to the directors of the institute. As it now stands this report will recommend that equipment be so simplified that complete interchangeability of tool joints, drill collars and fish tail bits will be possible. Specific sizes are recomfended for all shafting and key-ways.

Preliminary specifications were adopted by the committee working on the standardization of wire line and cordage. Its report is not yet final. C. C. Scharpenberg, of Los Angeles, is chairman of this committee.

The meeting of the committee on boiler specifications resutled in the naming of sub-committees. Its work will be pushed throughout the coming year. A. B. Steen is chairman.

Committees Organize

The first meeting of the committee on belting was held Monday previous to the opening of the institute. Preliminary work was undertaken under the direction of William Warr of Tulsa.

The organization meeting of the commitee on standardization of standard rigs and derricks was held Monday. W. W. Fondren of Houston is chairman. Sub-committees were named to carry out detailed work for the year.

Before the next session of the institute there may be several meetings of these standardization committees and some reports likely will be in the hands of the directors even before the next annual session. It is possible that the institute directors will pass on committee recommendations in some instances and have the reports published. The work of standardization of oil country equipment will not end with the reports of the committees now organized. It is to be carried into other parts of the equipment field and may continue over several years, other committees being formed, as those now existing complete their work.

President's Address

The institute swung into real action Tuesday afternoon with the annual address of Thomas A. O'Donell, its president. In addition to the members, who filled the Palace theatre, his address was broadcasted over the radio station of the Fort Worth Star-Telegram. The theme of the speech by the California oil executive was that the oil industry should solve its problems without the guidance or control of either federal or state laws.

"The oil industry is sick," he said, "but in my opinion it is only a temporary illness. It is subject to our worst economic ill — over production. It might be said to be suffering from a broken leg, and is limping a little. But broken legs are mended by certain well known practices, and I for one don't want to go to the government to get healed. If we did, when we got through we probably would have neither arms nor legs healed.

"The great trouble with the world today is not overwork but idleness, of which nothing is more conducive of unhappiness and unrest.

"If America ever exhausts its supply of petroleum, we will go into the business of evolving substitutes, or maybe go into the Rocky Mountains, which contain more petroleum than all the fields so far developed.

"There have been exaggerated statements regarding the shortage of petroleum, most of them coming from government sources and today the entire industry appears to be engaged in the business of getting all of it to the surface before the other fellow can."

Coming directly to the question of legislation, with governmental control of development of oil fields, he said: "I am not in favor of it and will fight it as long as I have health and vitality to do it. We have too many laws already. If all our legislative bodies, both state and national could be restricted for the next four years to repealing the existing laws, our country would prosper more than from all of the laws which will be offered for the purpose of trying to improve business."

Much of his speech in opposition to legislative control of oil development was in reply to an interview published the day previous given by Henry L. Doherty of the Cities Service Company. Mr. Doherty was quoted as saying "The United States would exhaust its supply of crude petroleum in twenty years."

General Economics

C. E. Mitchell, president of the National City Bank of New York was another speaker of the afternoon. His remarks were devoted to the general economic prospect for the United States. These he classed as excellent.

Walter C. Teagle, president of the Standard Oil Company (New Jersey) spoke at the afternoon session on the subject, "Overproduction—its causes and effects."

At the evening session, Amos L. Beaty, president of The Texas Company, was the first speaker, talking on "The Petroleum Triangle."

Bruce Barton of New York, publicist and advertising executive, spoke at

the evening session on "Who are the friends of the people?"

Directors, as nominated by the board of councillors at their morning session, were elected by the institute in session tonight.

The list given below includes those holding over, those re-elected, as well as new members:

L. P. St. Clair, Los Angeles; F. H. Hillman, San Francisco; Dave E. Ewing, San Francisco; Mark L. Requa, San Francisco; B. B. Brooks, Casper; W. S. Farish, Houston; John H. Markham, Jr., Tulsa; J. D. Collett, Fort Worth; Frank Haskell, New York; J. Edgar Pew, Dallas; George W. Crawford, Pittsburgh; J. C. Donnell, Findlay; H. R. Gallagher, San Francisco; E. W. Clark, Los Angeles; T. A. Dines, Denver; Roy B. Jones, Wichita Falls; P. M. Miskell, Tulsa; F. A. Pielsticker, El Dorado, Kansas; R. D. Benson, New York; Edward Prizer, New York; B. G. Dawes, Columbus, Ohio; Charles L. Buhr, Oil City; K. R. Kingsbury, San Francisco; E. T. Wilson, Denver; Robert W. Stewart, Chicago; L. V. Nicholas, Chicago; W. H. Barber, Minneapolis; Amos L. Beaty, New York; A. P. Coome, Cleveland; J. Howard Pew, Philadelphia; James E. O'Neil, New York; H. E. Fleton, New York; W. K. Hughes, St. Louis; T. B. Gregory, Pittsburgh; W. M. Welch, Tulsa; Walter C. Teagle, New York; Herbert L. Pratt, New York; E. L. Doheny, New York; D. M. Folsom, San Francisco; F. B. Henderson, San Francisco; W. G. Skelly, Tulsa; E. W. Marland, Ponca City; J. W. Lucey, Dallas; A. C. Bedford, New York; Alexander Deussen, Houston; E. C. Lufkin, New York; Thomas A. O'Donnel, Los Angeles; William N. Davis, Bartlesville; E. B. Reeser, New York; H. F. Sinclair, New York; George S. Davison, Pittsburgh; J. W. Van Dyke, Philadelphia; Henry L. Doherty, New York.

Manufacturers Plan Organization As Unit of American Petroleum Institute

Fort Worth, Texas, Dec. 8.—Steps toward the organization of manufacturers and supply dealers of oil country products as a group of the American Petroleum Institute were taken at an informal meeting here tonight. A committee of seven was named to confer with officials of the Institute.

Members of this committee are: A. D. Brown of the Oil Well Supply Company; W. K. Hughes of the Continental Supply Company; R. C. Kuldell of the Hughes Tool Company; R. S. Haseltine of the Guiberson Corporation; John Geismar of the National Supply Company; E. W. Goeser of the Emsco Tool Company; and W. A. Gray of the Jarecki Manufacturing Company.

Those present at the meeting were: H. L. Dickson, McGraw-Baughman-Bearly Lumber Company, Tulsa; C. R. Krause, Lee C. Moore & Company, Inc., Tulsa; C. C. Joys, Jr., A. O. Smith Corporation, Milwaukee, Wis.; J. W. Kelley, Jarecki Manufacturing Company, Pittsburgh; S. L. Carter of Fort Worth, S. M. Jones Company; A. L. Meeks, Tulsa, S. M. Jones Company; A. H. Emerson, Toledo, S. M. Jones Company; A. W. Thompson, St. Louis, Continental Supply Company; H. L. Hillman, Oil City, Penn., Reid Gas Engine Company; John Reid, Oil City, Reid Gas Engine Company; L. J. Black, Beaumont, Beaumont Iron Works Company; E. J. Swindler, Tulsa, Frick-Reid Supply Company; O. C. Staples, Tulsa, Frick-Reid Supply Company; C. J. Tagliabue Manufacturing Company, Brooklyn; E. W. Goeser, Emsco Tool Company, Los Angeles; J. S. Wagner, Emsco Tool Company, Los Angeles; L. C. Rhoads, Bessemer Gas Engine Company, Bessemer, Penn.; F. W. Mohler, International Derrick & Equipment Company, Pittsburgh; C. E. Reed, Reed Roller Bit Company, Houston; S. Clarke Reed, Oil Well Supply Company, Pittsburgh; Geo. W. Roff, North Texas Supply Company, Fort Worth; Edward Feldhausen, F. W. D. Truck Company, Clinton, Wis.; William K. Hughes, Continental Supply Company, St. Louis; John A. Geismar, National Supply Company, Toledo; Samuel R. Dye, J. A. Roebling Sons Company; J. S. Carroll, Johns-Manville, Inc.; G. I. Morris, American Radiator Company; E. W. Long, Klipfel Manufacturing Company; H. R. Gruber, Williamsport Wire Rope Company; O. T. Dawson, National Supply Company; Merrill N. Davis, S. R. Dresser Manufacturing Company; P. J. Shoavlin, Superior Gas Engine Company; R. C. Kuldell, Hughes Tool Company, Houston; H. W. Fletcher, Hughes Tool Company, Houston; A. A. McDonald, Hughes Tool Company, Houston; Robert D. Allen, William Powell Company, Cincinnati; W. C. Trout, Lufkin Foundry & Machine Company, Lufkin, Texas; Russell G. Davis, Chain Belt Company, Milwaukee; C. D. Erlewine, Marion Machine Foundry & Supply Company, Houston; L. A. Eberhart, Longhart Supply Company, Fort Worth; N. S. Longabaugh, Longhart Supply Company, Fort Worth; F. M. Devin, C. & G. Cooper Company; T. F. Hudgins, C. & G. Cooper Company; R. S. Haseltine, Guiberson Corporation, Dallas; R. A. Wilson, Guiberson Corporation, Dallas; Earl Hagy, Wilson & Willard Manufacturing Company, Fort Worth; Earle H. West, John A. Roebling Sons Company, Tulsa; John M. Wilson, National Supply Company, Pittsburgh; J. H. McDonald, Atlas Supply Company, Muskogee; C. E. Ross, Atlas Supply Company, Fort Worth; F. J. Bradford, Bradford Rig & Reel Company; W. B. Gray, Jarecki Manufacturing Company, Tulsa; F. D. Pierce, Spang & Company, Butler, Penn.; James B. Dunigan, Dunigan Tool & Supply Company, Breckenridge, Texas; O. A. Kocker, Youngstown Sheet & Tube Company; W. M. Bovaird, Bovaird Supply Company, Tulsa; F. J. Hinderliter, Hinderliter Tool Company, Tulsa; C. M. Murray, Murray Tool & Supply Company, Tulsa; T. E. Robinson, Wickwire Spencer Steel Corporation, Tulsa; Earle P. Halliburton, Halliburton Oil Well Cementing Company, Duncan, Oklahoma.

Doherty Organization Men Hold Meet at Kansas City

Kansas City, Mo., Dec. 6.—Henry L. Doherty, president of Henry L. Doherty and Company of New York, conferred here December 1 and 2 with executives of the New York office and those in the Middle West and Southwest who came from Bartlesville, Fort Worth, Tulsa, St. Paul and other points. He addressed the Chamber of Commerce of Kansas City on December 3.

Those attending the conference here included H. R. Straight, vice president and general manager of the Empire Companies at Bartlesville, Okla., A. W. Ambrose, Clay Briggs, Floyd C. Brown, H. O. Caster, F. K. Haskell, D. W. Harris, H. L. Montgomery, W. J. Moran, C. E. Murray, E. L. Peck and O. P. Warlick, all of Bartlesville. The Empire managers from other cities who attended included P. M. Miskell of Tulsa, L. G. Coleman of Ft. Worth, W. H. Merritt of St. Paul and C. B. Fletcher of Chicago.

Doherty Attends Institute

Tulsa, Okla., Dec. 7.—Henry L. Doherty, president of the H. L. Doherty & Company of New York City spent the day in the city, en route to the American Petroleum Institute meeting at Ft. Worth.

In a statement issued, Mr. Doherty said that the laws under which the oil industry operates must and should be changed and made uniform so as to apply to all other classes of property. However, he does not favor government control except in the respect to oil being a war munition.

Mr. Doherty reiterated his views in regard to conservation and economic relations, similar to his proposal before the Institute last year at the St. Louis meeting.

Oklahoma Oil Tax Large

Oklahoma City, Okla., Dec. 8.—The state's gross production tax on oil and gas for November aggregated $1,582,-143.37, which is one of the largest monthly collections ever made by the state.

Dressing and Tempering Drilling Bits

An address delivered before the American Petroleum Institute December 10 at Fort Worth

By Francis B. Foley

Metallurgist United States Bureau of Mines

DURING the past summer the Bureau of Mines started a first hand study of field conditions and equipment which bear in the performances of bits used in oil well drilling. In connection with this work, which has been going on for the past four months, the bureau is also endeavoring to obtain data on the amount of time lost due to bit changing. In all of this work there has been very satisfactory co-operation from producers, contractors and field shops.

To say that the equipment and methods in vogue in tempering bits in the field are quite inadequate for the production of good tools is merely to repeat what has been said very many times before. There was so little known about steel in 1557 that we are not surprised to find Cardanus, a well known naturalist and mathematician of that day, stating: "Steel is nobler than iron, and exists in two forms, namely, made steel and native steel. When it is well cleaned, then heated, and then quenched three or four times in equal parts of extract of radishes and water which has contained earthworms, it cuts iron like lead," but we know immeasurably more about steel and its heat-treatment today than was known in the time of Cardanus. Today it is not at all unusual to find the bottom of shallow quenching baths covered with all kinds of refuse, so that one might say that the steel was being quenched in equal parts of water and a mixture of shavings, cigarette containers, cigar and cigarette stubs. No doubt the bath used by Cardanus away back in 1857 was superior to some which are found in use today in the oil fields.

Furnaces Improper

The furnaces generally in use throughout the oil fields are not designed in such a manner that their temperature can be easily controlled, even though a pyrometer were used in measuring the temperature. The atmosphere in the furnace is oxidizing, so that the carbon is removed from the outside of the steel during heating, the result being that the thin edge of fishtail bits is sometimes rendered unfit for hardening. The Bureau of Mines was confronted with this sort of equipment when it first undertook a field study of bit dressing and hardening. Fortunately, the salt bath with temperature control was at that time being introduced into the oil fields. Simple as the salt bath method of heating is, it very soon was clothed with mystery. Many thought that some extraordinary properties were bestowed on steel which had been subjected to the influence of the molten salt, as though some chemical reaction took place between the salt and the steel or that something from the salt bath entered into the steel. Nothing could be farther from the fact. One of the essentials of a successful salt bath is that it shall not react with the metal. The purpose of a salt bath is to provide a liquid bath which will give a uniform temperature in which the steel can be heated out of contact with the air. The temperature of a bath of this kind can be easily controlled and can be read by means of a thermo-couple placed in the bath and connected with a temperature indicator.

Steel heats somewhat more rapidly and uniformly in a liquid bath than in the ordinary type of furnace and the heat can be confined to that portion of the steel only which is submerged. The use of salt baths for heating steel is not at all new but has been in vogue for many years. Steel which is heated for hardening in the usual type of furnace is quite apt to scale. The scale is iron oxide produced by the reaction of the oxygen in the air entering the furnace with the iron in the steel. The oxygen will first react with the carbon at the surface of the metal and when that has been removed the oxygen combines with the iron, producing scale. By heating steel in a salt or lead bath the oxygen of the air is prevented from coming in contact with the steel and the surface is thus protected from decarburization and scaling. For years salt and lead baths have been used for the heating of parts which must be kept free from scaling. The mixture of salts which makes the particular bath now being used for hardening fishtail bits is known commercially as Lavite and it will be well to describe here the operation of hardening in such a bath.

The bath is first heated to the temperature at which the steel is to be quenched. Before introducing the steel into the bath, it is important to see that there is no moisture on the surface of the metal, because in such an event the moisture will immediately be converted to steam when the steel is placed in the hot salt and molten salt will be expelled from the bath which might strike the workmen and cause severe burns. It is desirable to have the steel preheated to above the boiling point of water, or better still to place the steels in the bath while still hot from the forge or hammer, but well below the temperature where color shows. The time at which the steel reaches the temperature of the bath is easily observed, as the salt is fairly transparent and the steel becomes the same color as the bath of salt. When the bath temperature is reached, the steel is quenched in circulating oil or water, according to the type of composition of which the bit is made.

Comparisons

The Bureau of Mines has therefore two methods of treatment for comparison. One is the ordinary open fire method of heating, without temperature control and with oxidizing conditions present and the other is the salt bath method in which the steel is heated under temperature control away from the oxidizing influence of the air. Hundreds of bits tempered by both methods are followed from the smith shop to the rigs and there the performance of the steel in drilling is observed. Because of the number of variables entering into the drilling operation, a great number of steels have to be followed through. It may be of interest to call attention here to some of the variables encountered. they are:

1. The speed of revolution of the rotary.
2. The nature of the formation being drilled.
3. Depth of formation being drilled.
4. The driller.
5. Size of bit.

To the above may be added the variation in composition of bits. Of course, there will be a tendency for the smiths to put forth their best efforts where, as in this case, their work is being made the point of special study. This will have a tendency to cut down the difference which would ordinarily be found between bits treated under controlled conditions and those treated by more or less guesswork.

Figures which have been furnished by a producer in Oklahoma, show conclusively the possibilities of saving in time and money in rotary well drilling by more careful supervision of methods in heat treating and bit dressing in the field and by a policy of advancement on the part of the manufacturer in the direction of bit steels of more lasting quality. The time lost in changing bits, amounting in one case to 250 hours, could probably be cut in half without much trouble. The time of drilling might also be considerably reduced.

This study for the present will only determine to what extent more accurate methods of handling bits in the bit dressing shops will improve the performance of the bits in making hole, for only the present design and composition of bits are available—no new

designs nor compositions are being made the point of this particular bit of work. The study of bit shape and composition should follow in due time, but a word regarding bit steel composition will not be amiss here.

The manufacturer of bits—I shall deal here particularly with fishtail bits—is in a rather trying position from the point of view of bit steel composition. He strives for two things, which may be consistent one with the other. In the first place he wants to satisfy the driller in producing a steel which will make hole with a minimum of wear and consequent redressing. That, in itself, is not so difficult an undertaking were it not for the second requisite that the metal be extremely tough in order to minimize the possibility of breakage and twist offs which cause fishing jobs. These two properties do not go hand in hand in an untreated forging. The steel which is least apt to break off at the pin is not likely to be one which will have maximum drilling efficiency, and the forged bit which would give maximum speed and endurance in removing ground may be brittle.

However, experiments conducted at the plant of the Lucey Manufacturing Corporation show conclusively that if the forging is subjected to a complete heat-treatment consisting of a quenching and drawing, steels having good drilling properties can be rendered tough and the chances of breakage reduced to a minimum.

Important advances in the manufacture of fishtail bits will no doubt follow along these lines and still more efficient drilling bits will be the result. With different treatment the same steel which makes a satisfactory rear end axle for an automobile is also made into satisfactory gear, and it follows that with a different treatment the steel which will give a hard relatively non-abrasive cutting edge can also be made to give satisfactory service in the pin where toughness is the most essential property.

Treating Important

While the manufacturer is striving for a fool-proof bit, one that will withstand considerable abuse in the way of temperature at the hands of the field smith, it is not the part of the field smith to take every advantage of the range of temperature. No mateer how fool-proof a steel may be, there is a right and wrong way of heat treating it. In the fool-proof steel the smith may get away with the wrong way of tempering the bit without serious trouble to the driller, but he is doubtlessly sacrificing drilling qualities in so doing. A bit made of wrought iron would be rather fool-proof after a fashion in that it would not break, but it would not make hole.

There are certain bits, classed as oil quenching, which might give better results if quenching were done in water and the bits subsequently drawn at a low temperature. Possibly better results would be obtained from all bit steels now used were they quenched in water and drawn. The danger is in the possibility that some of the steels which are designated as oil quenching might be cracked if attention were not paid to overheating. Undoubtedly the greatest danger of cracking comes from overheating and even without temperature measuring devices there is really no excuse for it. One of the earmarks of a good smith is his ability to estimate temperature by his eye alone with a reasonable degree of accuracy—skilled smiths owe much of their success to their ability in this direction. Only the careless, lazy smith needs a range of two or three hundred degrees for hardening and why it should be necessary to cater, through mild fool-proof steels, which are consequently less efficient as drilling steels, to smiths of this character is beyond me. It isn't necessary to allow steel to go stone cold in the quenching bath in order to have it harden and it is always safer to remove the steel from water while

(Continued on page 54.)

Report Shows Texas Production for Third Quarter Nearly Million Barrels Down

Following a trend of decreasing production which started late in the second quarter of this year, total Texas production for the third quarter dropped about 954,000 barrels below the amount shown for the second quarter. Total production for the quarter ending September 30, was 32,221,650 barrels as compared with 33,175,937 barrels for the three months ending June 31.

For the fifth consecutive time the Humble Oil & Refining Company led all other Texas companies in the total number of barrels of oil produced. This company showed 4,128,070 barrels for the third quarter, 400,000 barrels decrease from the second quarter.

The only changes in the list of the ten leading companies were the swapping of places by the Gulf Production Company and The Texas Company, the Gulf Company dropping from second to third place, the Sun Company reappearing on the list, and the omission of the Texhoma Oil & Refining Company which appeared last time. After showing a production of slightly more than 432,000 barrels during the first quarter, the Sun Company came back during the third with 1,080,875 barrels. This brought the company up from the last place in the list during the first quarter to seventh for the third.

It is interesting to observe that only two companies increased their output of oil during July, August and September. The United North and South Oil Company, which operates exclusively at Luling, reported a gain of 147,800 barrels, and the Sun Company boosted its recovery nearly 500,000 barrels. All other companies showed decreases ranging from one to several hundred thousand barrels.

A study of the table will also show that most of the companies appearing for the third quarter of last year were producing considerably more oil then than now.

According to figures furnished by the Department of State at Austin, total valuation of production for the third quarter reached $44,551,101.

Many companies not appearing among the ten leading ones showed a production above 400,000 barrels. More than a score of others went above the 200,000-barrel mark and a long list included those producing more than 100,000 barrels.

A study of the table will disclose that the companies showing the biggest decreases have large holdings in the North-Central Texas district. For example, the 500,000-barrel drop reported by the Humble Company can be accounted for largely at Powell where production was declining steadily during the late summer and early fall.

In all probability the second quarter will prove the peak period of Texas production in 1924. All the major fields in the state have been on the decline for practically the entire fall and it is doubtful if any new flush pool will influence the total for December. Wortham will not show numerous completions before about the first of January and the South Vernon field will hardly offset declines in other North Texas pools.

Production by companies for the third quarter will appear in the December 19 issue of The OIL WEEKLY.

TEN LEADING COMPANIES IN TEXAS

Companies—	Third Quarter 1924	Second Quarter 1924	First Quarter 1924	Fourth Quarter 1923	Third Quarter 1923
Humble Oil & Refining Company	4,128,070	4,502,808	4,328,893	4,022,993	5,243,749
The Texas Company	2,570,089	2,624,810	2,449,191	3,219,397	2,627,666
Gulf Production Company	2,423,379	2,841,713	3,270,183	3,976,439	3,293,161
United North & South Oil Company	2,452,287	2,304,443	1,026,606	844,024	.....
Pure Oil Company	2,035,510	2,205,034	2,747,157	3,245,278	4,321,628
Magnolia Petroleum Company	1,493,439	1,607,897	1,462,278	1,763,783	2,079,722
Sun Oil Company	1,080,875	.....	432,819	530,386	.....
Republic Production Company	779,981	906,898	1,187,902	802,904	.....
Atlantic Oil Producing Company	689,448	737,437	646,175	1,421,103	805,012
Simms Oil Company	588,816	703,129	863,119	546,631	.....

Total All Companies:

Third Quarter, 1924	32,221,650	Fourth Quarter, 1923	41,839,186
Second Quarter, 1924	33,175,937	Third Quarter, 1923	23,403,785
First Quarter, 1924	31,328,240	Value Third Quarter, 1924	$44,551,101

Theoretical Mechanics of Flowing Wells

A discussion of the influence of gas and pressure in producing oil wells

By Harry Pennington
Mechanical Engineer

IN a previous paper in The OIL WEEKLY, the effect of partial vacuum upon settled production was outlined with reference to migration of oil to the well bore as affected by the large expansion of gas, vaporization from oil due to lowering pressure, frictional contact and impact, and the gradient of oil to the well due to static level differences of pressures in the oil sand. The pressures dealt with were below atmosphere; the vaporization hastened by low pressure; the expansive force, low, though the expansion ratio is high; and the static pressure confined to that of the fluid due to thickness of the sand, all of which are small compared to the pressures found in a discovery well and existent during flush production.

While the recovery of oil during the flush period is over a shorter period than the pumping or settled production, still, one day of flush production may require several years of settled production to equal it. I have in mind one well that made 270,325 barrels of oil during the first six months, that has made since that time, five years and one month, 32,440 barrels, and, at the present rate of production, the same well will have to pump more than one hundred years for the total settled production to equal that obtained during flush production, with today's methods of pumping. Yet, by a number of methods of computation, the proportion of oil remaining in the sand is still greater than 65 per cent of the original oil content.

Thus we can see that the pressure found in the sand originally is the most potent factor by far in production and that if the flowing period is prolonged even one week, the amount of oil thus secured may require several years of pumping to produce an equal amount. In other words, the well cited above flowed six hundred and seventy barrels the last day, when swabbing was required; today, that well requires one hundred and fifty-seven days to pump an equal amount. To prolong its flow for one week meant then, that about three years of today's production would have been equalled.

Flush Days Best

The general rule holds that regardless of how much oil a well in structural country made initially, compared with another of the same field, both wells settle down to approximately the same daily pumpage. Perhaps a little will be in favor of the well that made the largest initial and largest amount of flush production because of the cleaning effect of rapid rates of oil flow to the well bore, and there may be other exceptions, but wells that flow due to being drilled during the flush production or pressure period, compared with wells that are drilled after the head of the field is off, will in after years show the same approximate production on the pump, without any relation to the amount of initial production, because all wells of the field are reduced to the same conditions of production when the pressure period ends.

Famous wells, wells that made the owners rich, are levelled to the same approximate daily production of wells that required years to "pay out" by this thing—pressure and quantity of gas. We all know that the head on a field gradually reduces; that it is a vanishing factor of production; that flush production affords the largest percentage of profit; that when we dissipate gas and its pressure, so potent in flush production, the production curve turns down and flattens, and, whether there has been 5 per cent or 25 per cent of the oil content of the sand recovered, daily production depends upon pressure, pressure upon quantity of gas. Therefore, the percentage of recovery depends, not alone upon pressure, not alone on the quantity of gas found, but at the rate at which we use the gas and its pressure to lift it to the surface—upon the quantity of gas used to lift each barrel.

Pick out any well in hundreds of the same field, compare it with any other well equally as well finished in the same field, and its initial production will be found proportionate to the pressure encountered when it was drilled. And, in the process of drilling up a field, wells gradually produce less and less, initially, until it is no longer profitable to drill, even though the interior of leases may not be drilled and, though the lines may be protected, the oil content of the interior may be larger in proportion to initial production than the proportion in the discovery well.

These comparisons are given for the purpose of emphasizing the value of gas and pressure as a means for extracting a greater ultimate percentage; not particularly by securing more oil per well per day at any time but by using gas economically to apply its energy first, to driving oil to the well bore, and then to lifting it to the surface, both of which may be done to a greater or less extent, depending upon the skill and intelligence used in an analysis of well conditions as found, and of methods and appliances used during the flush period.

The energy possessed by the gas content of a field, says Breckenridge, is many, a great many, times more than is necessary to do the actual foot pounds work of lifting the entire oil content of the sand to the surface; with even the low efficiencies obtained in the air lift, there is still many times the necessary energy; it is the application of this energy, so valuable, yet so fleeting, that has really received the smallest proportion of study, compared to its value.

Controlling Pressure

The effect of pressure found initially and the quantity of gas, may be subjected to directed control during the flush or pressure production period; control of flow of oil to the well bore practically vanishes with pressure above atmosphere, because then, the only remaining pressure factor is that below atmosphere, which is a very small quantity compared to the initial rock pressure above atmosphere.

The subject is one of many intricacies; it differs in every field, with every well in a field, because every well in a field has some one or more different characteristics during the flush period, and fields differ in characteristics of oil, depth to the sand, thickness of sand, lithology of sand, pressure, quantity and quality of gas and water conditions as related to structural conditions.

We are opposed to interfering with a well producing several thousands of dollars worth of oil daily, but every well discloses its charactertistics at some stage or another, while the sand is being drilled, while being brought into production and afterward, and if observations are made and analyzed, of characteristics as disclosed, no especial arrangements are necessary for a complete analysis insofar as the well itself is concerned; just every day operations of bringing a well into production disclose sufficient data and furnish sufficient material for analysis complete enough. Here the analytical mind finds its most potent application to the practical problems of flush and settled production.

It will be here understood that we are dealing with things that for the most part, are never seen, and that the greater part of conclusions are purely by inference, based upon field observations and upon laboratory work simulating field conditions. These are the only means available; commercially correct results may be obtained as accurately in this manner, as adding two and two, and the work done is mainly

along the line of inferring what does happen at the bottom o. a well and in a producing sand, covering a period of many years in the field. And of course, an inferential study can be made only by observations beginning when the core drill strikes the sand.

Production is divided here into the pressure flowing period or flush pro-

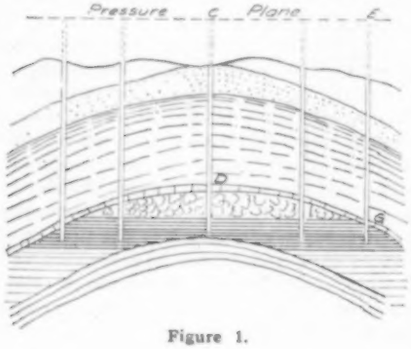


Figure 1.

duction, and the pumping period, or the period of insufficient pressure to cause flowing—settled production, and the former only is considered here.

Periods Overlap

The two periods apparently overlap, to be sure, as when a well pumps more than it will flow, with the methods used but strictly speaking, the division may be accurately made at one time in the history of a well that flows initially, and the division as made herein is sufficient for the purpose.

A well may flow the first time simply by pressure; pressure may force a column of mud-laden fluid out of the hole, followed by gas and oil. In this case the rock pressure on the sand is greater than a column of fluid equal to the depth of the well and, when such conditions are found, the well comes in without bailing or other assistance. This condition of pressure is shown in Figure No. 1, where the initial pressure plane, represented by a straight line, is initially above the surface. The structural condition, for convenience, is taken from Dr. Day's Handbook, page 43, volume 1, as expressive of the most general condition.

The pressure plane corresponds to the static level of fluid over the area, and a well drilled into the sand, at any location where pressure from the same source is found, will have the same initial static level, until interfered with by local and general disturbances of pressure due to withdrawals and conse-

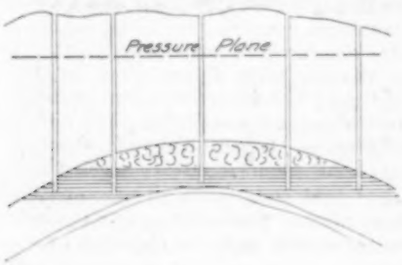


Figure 2.

quent lowering of pressure. A well drilled at E, compared with a well drilled at C, will have a greater pressure at the bottom, due to the difference in elevation between D and G, but the pressure of both wells will be equal to and will force a column of fluid to, the pressure plane.

The source of pressure is not material to this discussion; sufficient that we do find pressures gerater than an equivalent water column; several Mexican fields, Live Oak county, White Point, Petrolia, Texas, Midway and others have had such pressure, originally greater than a column equal to the well depth, where the fluid level would have to be carried from 100 to 400 feet above the surface to balance the well pressure.

The fact that wells blow out does not indicate such, though, because, when drilling is done with mud-laden fluid, the gravity of fluid may be reduced by entrained gas so much that the column weighs less, and the well blows out, but this does not necessarily mean that the well could not have been held in control by a solid column of mud fluid. The blow out preventer indicates this; when a blow is stopped and the gas allowed to pass through the column, and the column weight increased, the preventer may then be opened safely.

But the majority of fields is not in

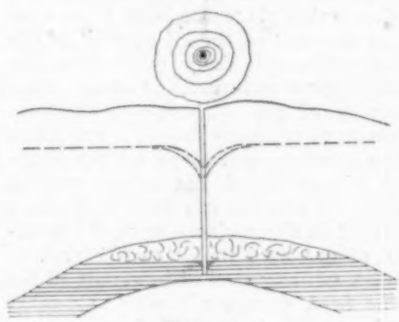


Figure 3.

this class; the initial static level, or pressure plane, is usually below the surface, as represented by Cushing, Electra, Mexia, Signal Hill, Tonkawa, and many salt domes of the Gulf Coast.

Why Pressure Drops

This condition is shown by Figure No. 2, where the initial pressure plane is below the surface. When a well is first drilled in a field and set to flowing, the pressure plane is depressed around the well, shown in Figure No. 3, in elevation, and the contours in plan, which contours represent pressure with 20 pounds intervals. The well sets up a local disturbance of pressure at first, proportionate to withdrawals of gas and oil, and consequent lowering of pressure. As withdrawals increase, the area of pressure disturbance increases, the pressure level lowers as shown by the dotted lines and the area affected gradually increases, as positively de-

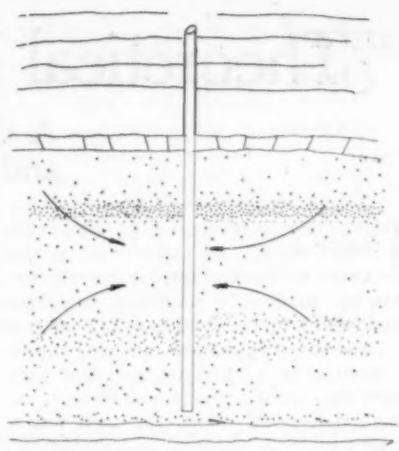


Figure 4.

termined by offsets drilled to a discovery well.

At the same time, the oil level is being affected, as shown by the same figure, because, as oil flow begins to the well, an hydraulic gradient of some kind, depending upon the withdrawal, must be set up to cause oil to flow to the well. Pressure of inclosed gas or liquid is in all directions; when the pressure at the top of the sand is reduced by withdrawal of oil and gas, pressure at a point away from the well, acting laterally, forces oil laterally to the well, below the top of the sand, as shown by the dotted line and arrows of Figure No. 4. It is this feature that gives the shape of the gradient. That this gradient is subject to a measure of control will become evident; the measurement of pressure gradient in offset wells has disclosed this, and the sketches to scale for any well may be drawn when offsets are drilled.

When the sand is consolidated into laminations, Figure No. 4, with successive strata of high and low porosity, migration of oil, and pressure disturbances will affect the gradient somewhat different, due to the local restriction of pressure influence. And, that this is true may be seen from the fact that as a well is being completed into the sand, striking a low porosity lamination, the production does not increase as much as when a highly porous lamination is drilled. The sands of Cushing, of Electra represent this class.

When there are no laminations, as represented by the loose sands of West Columbia, of Batson's Prairie, the hydraulic gradient conforms more closely, although, when the sand is sharply tilted, or the strainer is not open freely throughout its length, the gradient cannot of course, conform, and several cases of irregular gradient indicate such.

Laminations therefore flatten the pressure gradient, and the pressure distribution, around a well as well as the fluid gradient; the two may be almost alike during the flush period, and the gradients of sands conforming to the general characteristics of Figure No. 1

(Continued on page 35)

Santa Fe Springs Fire Takes Toll of One Life and Large Property Damage

Los Angeles, Calif., Dec. 6.—A fire at Santa Fe Springs November 30 destroyed 12 derricks, burned 6500 barrels of crude oil stored in about 30 flow tanks and one man lost his life—rather died from apoplexy from the excitement. The fire started early in the morning when a connection on the Belleview property broke, throwing oil onto the boiler. It quickly spread to all portions of a space about five acres in extent, filled with derricks, flow tanks, pipe lines, boilers, etc. The fire raged for nine hours before being brought under control.

R. W. Reeves, an aged watchman employed on the Pacific Petroleum lease nearby, died of apoplexy following the excitement. He had assisted volunteers when the fire started in an effort to bring the fire under control.

Two wells on the lease were flowing better than 1000 barrels each, but when it was seen that the derricks over the wells could not be saved, the wells were closed in and were not damaged to any great extent.

It is expected that the fire, the worst Santa Fe Springs has experienced in some time, will bring about and further a movement to provide more adequate fire fighting equipment and it is expected that most of the derricks in that field in time will be equipped with water spray devices similar to those used at Long Beach. The Union Oil Company lost practically all of one derrick over Bell 11, which was on the pump, but it was restored to production the next day. A portion of the derrick was saved on account of a system that had been installed to throw water on the derrick. But the system was not sufficiently complete to save the whole derrick.

Most of the damage resulted from burning oil flowing from the tanks as they boiled over.

Sinclair Party Makes Trip of Inspection

Houston, Texas, Dec. 9.—Harry F. Sinclair, chairman of the board of the Sinclair Consolidated Oil Company, spent Monday inspecting the Sinclair Refinery here, in company with a party of officials who came with him from New York and a number of men from the local offices of the organization.

The Sinclair party arrived early Monday in a private car and left Houston at 11:30 p. m. the same day for New Orleans.

They will not inspect the oil fields of Louisiana, but will hold a consultation in New Orleans with representatives of the Sinclair interests in Louisiana.

During the trip from New York, the officials visited many oil fields and petroleum centers, among which were the Rainbow field, Cowley county, Kansas, the Burbank field, Garber, Tonkawa, Crowell, Gilcrease-Papoose and Tulsa.

Those making the trip with Mr. Sinclair are C. E. Crawley, vice president of the Sinclair Consolidated; George H. Tabor, Jr., vice president of the Sinclair Refining Company; J. W. Carnes, vice president and general sales manager of the same company; E. W. Isom, vice president; C. A. Braley of Kansas City, vice president of the Sinclair Refining Company, and G. B. Winship, financial writer of New York.

This picture was taken while the fire was raging at Santa Fe Springs, Calif., about noon of November 30, showing the density of derricks and tankage.
—Photo by Cross Air Photo Service, 1425 Sunset Ave., Los Angeles.

Marion Line of Oil Well Equipment

Steel and Wood Derricks, Crown Blocks, Bull Wheels, Calf Wheels, and Pony Wheels, Steel Band Wheels and One Piece Steel Tub Rims, Gas Engines, Plain and Reversible Clutches, Band Wheel Powers, Sand Proof Working Barrels, Sucker Rods, Pull Rods, Jacks and Surface Equipment.

Marion 10, 25 and 35 H. P. Gas Engines

The Marion Gas Engine is built especially for Oil Country service.

It is a heavy duty, slow speed, four cycle engine, built for hard service where it receives little attention.

The fly wheels are heavy, which insures steady speed. The crank is a heavy, one-piece forging, machined from the solid, carefully finished to size.

The connecting rod is a one-piece yoke type forging machined to size.

The cylinders have a large water jacket, are bored and reemed to size, tested with 100 lbs. water pressure for any leaks.

The rings are of the best iron and turned to size and fit the cylinder wall the entire distance.

The arrangement of the valve chambers, ports, and spark plug makes the Marion Engine very easy to start and very dependable.

All valves have cast heads and are large, giving a good opening.

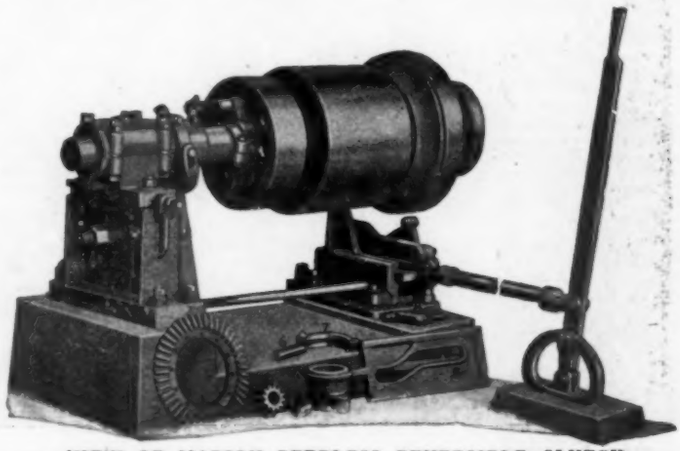
The Wico Igniter is furnished with all engines.

They are built in 10 H.P. for small pumpers and powers, 25 H.P. and 35 H.P. for large powers and beam pumping.

All engines are built with flanged fly wheel on the left and may be fitted with either plain or reversible clutches.

Marion Peerless Reversible Clutch

The Marion Peerless Reversible Clutch has a direct drive clutch with only one adjustment. An internal steel clutch shoe, faced with asbestos. All gears are made of nickel-alloy steel, hardened and the bore ground to size. All gears are in an oil tight case (the brake drum) and run in heavy oil. All pins are of nickel steel hardened and ground to size. All bushings are of phosphor bronze machined to limit gauges. The pulley is self-oiling and the oil chamber holds about one quart of oil. The outboard bearing has an oil reservoir with chain oilers. There is only one adjustment to the reverse. The clutch is a high-grade machine in every way. All parts are made to limit gauges and are interchangeable. The entire clutch is easy to take apart and assemble.



VIEW OF MARION PEERLESS REVERSIBLE CLUTCH

Marion Line of Oil Well Equipment

FACTORY BRANCHES IN
Tulsa, Okla.
Bristow, Okla.
Drumright, Okla.
El Dorado, Ark.
Eureka, Kans.
Nowata, Okla.
Okmulgee, Okla.
Tonkawa, Okla.
Smackover, Ark.

Export Office: 136 Liberty St., NEW YORK, N. Y.

FACTORY BRANCHES IN
Wilson, Okla.
Houston, Texas
Breckenridge, Texas
Burkburnett, Texas
Mexia, Texas
Luling, Texas
Long Beach, Calif.
Casper, Wyo.
Salt Creek, Wyo.

Marion Underpull Band Wheel Power

The Marion Underpull Band Wheel Power has a number of improvements designed to meet the more severe service demanded. The upper and lower eccentrics are the same in all dimensions. The rings are just alike. All phosphor bronze bushings are the same size. This makes it much easier to get any needed repairs. All parts are made to limit gauges and are interchangeable.

The entire length of the hub and eccentrics is phosphor bronze bushed. These bushings are all made to limit gauges so that worn out bushings are easily replaced with new bushings.

The bearing plates are large, made of phosphor bronze, and run in a bath of oil so that the power runs free and easy.

The hub eccentrics are fitted together with male and female keyed joints and firmly bolted together with two 2-inch bolts. These joints are made to limit gauges and fit perfectly tight to allow no play. The shaft is large and securely locked into the base by giving a quarter turn.

This construction makes these powers especially easy to erect or dismantle.

All sections of the rim are interchangeable and all drive spokes the same length. All top tension spokes are alike.

ORDER BY NUMBER BULLETIN IN WHICH YOU ARE INTERESTED

1—No. 198 Marion Steel Bull Wheels, etc.
2—No. 199 Marion Steel Derricks.
3—No. 200 Irish Pulling Machines.
4—No. 202 Marion Peerless Reversible Clutches.
5—No. 203 Marion Gas Engines.
6—No. 205 Marion Band Wheel Powers.
7—No. 206 Marion Sand Proof Working Barrel.
Special Hi-Test Sucker Rod Bulletin.

Marion Hi-Test Sucker Rods

(Trade Mark Reg.)

Marion Hi-Test Sucker Rods are recognized as superior—on account of their strength and efficient service. They are made from special analysis steel, with no weldings, leaving no weak spots. The special improved design of the taper at the shoulder of the Marion Hi-Test Sucker Rod eliminates trouble of sucker rods catching on tubing when running rods in. The special steel used in the Marion Hi-Test Sucker Rods give them much greater strength than ordinary mild steel or wrought iron and positively will not break under the strain that snaps the regular steel or wrought iron sucker rods. The Marion Hi-Test Sucker Rods successfully handle the deepest wells and most difficult jobs.

Marion Sand Proof Working Barrel

(Patented)

The Marion Sand Proof Working Barrel (Patented) is designed to overcome the serious loss of time and money on account of the fine sand settling around the valve cups and cutting and wearing them out in a very short time necessitating the shutting down of the pump, pulling the rods and refitting with new cups. With the Marion Sand Proof Working Barrel the sand and other granular matter is prevented from settling on the pumping cups. This freedom from sand greatly prolongs the life and usefulness of cups and prevents loss of oil incident to frequent replacing of cups. Stationary and movable parts may be pulled to surface as a unit for renewing cups or any other parts which happen to be worn, thereby dispensing entirely with necessity of pulling the tubing together with standing barrel. It is double acting—Pumping oil on both upward and downward stroke. Oil can be pumped from well in a shorter time, reducing fuel and wear on machinery. The barrel is simple in construction and can be taken apart and reassembled by any pumper in the field.

Address Dept. P.

MARION MACHINE, FOUNDRY & SUPPLY COMPANY

MARION, INDIANA, U. S. A.

Say you saw it in The Oil Weekly

CRUDE OIL PRICE QUOTATIONS FOR ALL FIELDS

Current Postings

EASTERN STATES

	Dec. 12 1924	Dec. 12 1923
New York Transit	$2.85	$2.60
Bradford (Pa.)	2.85	2.60
Other Pa. Grades	2.75	2.35
Cabel	1.45	1.20
Ragland	.90	.75
Corning	1.50	1.45
Somerset, medium	1.55	1.15
Somerset, light	1.70	1.30

CENTRAL STATES

Illinois	$1.37	$1.22
Indiana	1.38	1.23
North Lima	1.58	1.43
South Lima	1.58	1.43
Plymouth	.75	.60
Princeton	1.37	1.22
Waterloo	.75	.70
Wooster	1.40	1.25

WESTERN KENTUCKY

Posted by Indian Refining Company for crude from Allen, Warren, Franklin, Davies, Barren, Cumberland and Monroe Counties

36 and above	1.30	...
33 to 35.9	1.20	...
32.9 and below	1.10	...

CALIFORNIA

(Crude oil prices at well)

Los Angeles and Orange Counties

14 to 19.9 gravity	$1.00	$ .60
20 to 20.9 gravity	1.01	.61
21 to 21.9 gravity	1.02	.62
22 to 22.9 gravity	1.03	.63
23 to 23.9 gravity	1.05	.64
24 to 24.9 gravity	1.07	.65
25 to 25.9 gravity	1.10	.66
26 to 26.9 gravity	1.13	.67
27 to 27.9 gravity	1.16	.68
28 to 28.9 gravity	1.19	.69
29 to 29.9 gravity	1.22	.70
30 to 30.9 gravity	1.25	.71
31 to 31.9 gravity	1.28	.72
32 to 32.9 gravity	1.31	.73
33 to 33.9 gravity	1.34	.74
34 to 34.9 gravity	1.37	.75
35 gravity and above	1.40	.76
Fuel Oil	1.40	...

Rosecrans Field

36 to 36.9 gravity	$1.46
37 to 37.9 gravity	1.52
38 to 38.9 gravity	1.58
39 to 39.9 gravity	1.64
40 to 40.9 gravity	1.70
41 to 41.9 gravity	1.76
42 and above	1.82

MID-CONTINENT

(Prairie Prices)

Below 30 gravity	$ .75	$ ...
30 to 32.9 gravity	.90	...
33 to 35.9 gravity	1.10	...
36 and above	1.25	...

	Dec. 12 1924	Dec. 12 1923
(Sinclair Prices)		
Below 30 gravity	.75	...
30 to 32.9 gravity	.90	...
33 to 35.9 gravity	1.10	...
36 and above	1.25	...
(Texas Company Prices)		
Below 30 gravity	.75	...
30 to 32.9 gravity	.90	1.25
33 to 35.9 gravity	1.10	1.50
36 and above	1.25	...
(Magnolia Petroleum Co.)		
Below 30 gravity	.75	...
30 to 32.9 gravity	.90	...
33 and above	1.25	...
Corsicana, light	1.25	...
Corsicana, heavy (at wells)	.90	...
Mexia	1.25	...
Thrall	1.00	...

NORTH CENTRAL TEXAS

(Humble Oil & Refining Co.)

Corsicana, light (Powell)	1.25	1.00
Mexia	1.25	1.00
Currie	1.25	1.00

RANGER

(Humble Oil & Ref. Co.)

30 and below	.90
30 to 32.9	1.10
33 to 35.9	1.25
36 and above	1.35

WICHITA AND ARCHER COUNTIES

(Texas)

(Humble Oil & Ref. Co.)

30 and below	.75
30 to 32.9	.90
33 to 35.9	1.10
36 and above	1.25

Moran Crude

30 and below	.75
30 to 32.9	.90
33 to 35.9	1.10
36 and above	1.25

SOUTH TEXAS

Mirando (Texpata)	.80	.75
Mirando (Magnolia)	.75	...

SOMERSET

(Grayburg Pipe Line Company)

26 gravity and above	.95	...
Below 26	.85	...

GULF COAST

Grade "A"	1.50	...
Grade "B" at Blue Ridge, Hull and Pierce Junction	1.25	...

LULING

All gravities	.90	...

LOUISIANA-ARKANSAS

Caddo

	Dec. 12 1924	Dec. 12 1923
38 gravity and above	1.35	...
35 to 37.9 gravity	1.25	...
32 to 34.9 gravity	1.15	...
Below 32 gravity	1.00	...
Homer		
35 gravity and above	1.10	...
33 to 34.9 gravity	1.00	...
31 to 32.9 gravity	.90	...
Below 31 gravity	.75	...

COTTON VALLEY

All grades	.95	...
Haynesville		
33 gravity and above	1.00	...
Below 33 gravity	.90	...
Bull Bayou		
38 gravity and above	1.15	1.05
35 gravity to 37.9	1.00	.90
32 to 34.9 gravity	.85	.75
De Soto crude	1.20	1.10
Crichton	1.00	.90
Bellevue	1.35	.75
Jennings	1.50	1.00
Vinton	1.50	1.00
Edgerly crude	1.50	1.00

Smackover

Standard Oil Company of Louisiana
Louisiana Oil Refining Corporation
Gulf Refining Company
Shreveport-El Dorado Pipe Line Company

25 gravity and above	$ .95	...
Below 25 gravity	.85	...
Texas Company		
25 gravity and above	$ .95	...
Below 25 gravity	.85	...
El Dorado		
33 gravity and above	1.00	...
Below 33 gravity	.90	...
East Field (Calion)	.85	...
Stephens District		
26 gravity and above	.90	...
Below 26 gravity	.70	...

WYOMING-MONTANA

Wyoming

Elk Basin	1.20	.95
Grass Creek	1.20	.95
Rock Creek	.95	.60
Lance Creek	1.15	.70
Mule Creek	.60	.45
Big Muddy	.75	.45
Salt Creek	.85	.60
Osage	1.15	.90
Hamilton Dome	.80	.95
Pilot Butte	.75	1.10
Lander	.20	1.10
Torchlight-Greybull	1.15	.95
Montana		
Sunburst	.90	.70
Cat Creek	1.20	.95

CANADIAN CRUDE

Oil Springs	2.30	2.15
Petrolia	2.23	2.08

*Plus 2½ cents bounty.

SINCLAIR OILS

THE convenient location of Sinclair refineries and warehouses—the ready reserve stock of Sinclair Oils—Sinclair's tank trucks and tank cars—tankers of our affiliated companies—these facilities for prompt deliveries give our customers a feeling of satisfaction and security in placing their orders for Sinclair Oils.

"From a Can to a Cargo"

SINCLAIR REFINING COMPANY

New York: Sinclair Oil Building, 45 Nassau Street
Cable Adress "Lucent"

Chicago: 111 West Washington Street

In the Wyoming Fields

caving formations are everywhere encountered by the oil operator. Crooked holes and caving sands both make salvaging of casing difficult, imposing enormous strains on derricks and pipe joints. Under these conditions, the Moore derrick, on account of its great strength and safety, soon proved its superior worth. Operators gradually acquired a confidence in its sturdiness, merited by its unusual performance under the severest tests. Where weaker derricks were repeatedly pulled in, Moore derricks stood up with ease.

Small wonder, then, that wherever you travel over the Wyoming fields, the trim forms of Moore derricks stand out against the sky.

In like manner, Moore derricks have won first place in every field where derrick strength is put to the test by man and Nature's forces. Nothing succeeds like success.

Send for Catalog

LEE C. MOORE & COMPANY, Inc.

PITTSBURGH, PA.

Established 1907

CASPER, WYO. Midwest Building
DALLAS, TEXAS Magnolia Building
TULSA, OKLA. Atlas Life Building
SHREVEPORT, LA. 824 Prospect Avenue
PARKERSBURG, W. VA.— Union Trust Building

California Representatives

BUCK & STODDARD

SAN FRANCISCO
485 California Street

LOS ANGELES
3354 E. Slauson Avenue
Box 720 Arcade Station

Theoretical Mechanics Of Flowing Wells

(Continued from page 28.)

are more regular than those of dome fields.

Figure No. 5 shows another well, No. 2, drilled within the area in which the pressure has been depressed by No. 1 to which No. 2 is an offset. The initial pressure of this well is, of course,

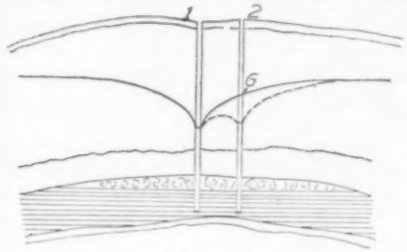


Figure 5.

found equal to the height of point G, which is the method used in plotting these curves of pressure. As No. 2 well relieves pressure by withdrawals, and sets up its own influence, the pressure level approximates in a descending manner, the dotted curve of this figure. No. 1 well, being the first drilled, has had a better opportunity of cleaning the sand pores of silt and fine grains, around the well, than No. 2, but No. 2 has a greater accelerating influence, all other conditions being equal, than No. 1 because of the higher pressure initially of No. 2, and the comparative production of the two wells is a measure of these influences, although No. 2 cannot have as wide influence as No. 1 because of its lower initial pressure.

In the case of line protection, No. 2 reduces the capacity of No. 1 and serves both the purpose of producing oil and preventing the influence of No. 1 from spreading over the property represented by No. 2.

But, a third well, drilled in the same field outside of the influence zone of these two will have a history more like No. 1 than No. 2.

Sand Conditions

The influence zone of wells is proportional to the freedom of flow through the porous container—sand. If the oil is from coarse consolidated sand, with large pore spaces, the influence spread more quickly, the production is greater, proportionate to pressure, and other conditions of casing and quantity of gas; while close grained sands, that resist flow more, have a correspondingly less spread of influence, both as to area and as to time.

And, if the percentage of porosity of one sand is the same, but the size of pore spaces smaller, the flow is restricted by capillarity, friction, and of course, heavy oils, by viscosity, affect the rate of propagation of pressure reduction. Then, the flow of oil through sands of low porosity, or through sands with small dimensions of interstices, is less than through high, and the spread of influence per unit of withdrawal and also per unit of time, is less, so that the depression of pressure level is greater immediately at the well, the radius of influence less, and gradient of pressure steeper, and we see that a pressure reduction of the same amount sets up an influence zone inversely proportional to the porosity and wells may therefore be drilled closer in tight sands than loose, if the same percentage of recovery is sought.

A direct comparison of this is in the highly porous sands of Burkburnett and those of lower porosity represented by the sandy lime of Breckenridge.

While the oil content per unit volume of low porosity sands is less than high, the sands of lower porosity have one distinct advantage over high, due to the slower release of gas. Vacuum became necessary at Burkburnett several years sooner than Breckenridge, and the production of gas at Breckenridge today is many times the 3,000 feet average gas per well of Burkburnett and, insofar as the extraction of gasoline is concerned, although the Breckenridge gasoline content is smaller than Burkburnett, plants at Breckenridge are a safer investment because the gas content is released more slowly.

The well begins flowing by pressure forcing oil into the well bore and gas lifting it to the surface, with the majority represented by Figure No. 2, with the pressure plane below the surface. When the initial well, that is, any well not subject to the influence of another, is closed in, as may be necessary to lay flow lines and arrange tankage and line connections, the depth of oil in the well, plus the gauge pressure at the top, with the valve closed, is the total static head or rock pressure on the sand. When the valve is opened quickly, as in stopcocking, relieving pressure in the casing suddenly, the oil level rises naturally, and even though the total well pressure at the bottom may be insufficient to flow the well, the disturbance set up by sudden release of pressure may project the oil column in the well upward, and relieve gas at the bottom and aerate, (I use this term, but gas is the medium) the oil so that oil comes to the surface, and the well begins to flow due to removing the oil column pressure. But, if the valve is opened slowly, relieving the gas pressure in the casing above the oil slowly, so as to set up no disturbance or aeration, the oil level will rise only to such distance as equals the gauge pressure on the well when the valve was closed. For instance, the well was 3,030 feet deep; the oil level, as shown by deposits on the flow line, 1,120 feet below the surface; the closed pressure on the gate valve 226 pounds; the oil of 36.4 gravity. The rock pressure was therefore 946 pounds at that time, which was verified by the rise of the oil level after the pressure was slowly released by the valve.

Analyzing Pressure

The effect of gas and pressure in driving oil to the well bore is something that is analyzed only with difficulty; often only imperfectly and purely by inference. The pressure in a sand, like all fluid and gas pressure, is equal in all directions; flow is along the line of reduced pressure; reduction of pressure is along the line of least resistance; if one portion of a sand permits a free flow while another does not, then the flow is toward the free portion, whatever the direction. Figure No. 4 shows this condition as disclosed by cores, by production, by packer set in the wall, by the position of inlet to the flow line and the relative flow of oil and proportion of gas with three different packer settings and locations of inlet to the flow line. The majority of oil came into the well bore

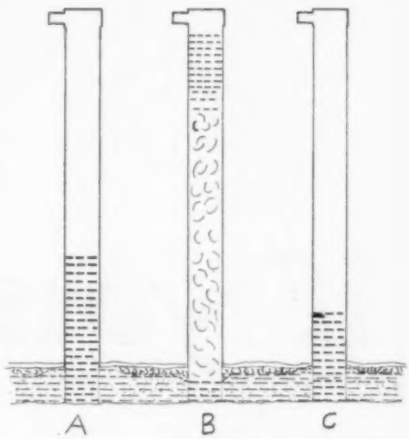


Figure 6

through the zone of high porosity, and it can therefore be safely inferred that this zone gathered oil from above and from below, away from the well bore, and conducted that oil to the well.

Wells that flow by heads are represented in Figure No. 6, which representation is based upon pressures obtained directly. The situation at A is the head of oil gathering in the well and rising in the casing. The rising of gas pressure due to confinement is to such point that the oil column is lifted entirely by gas pressure of the well. The dead silence of the well between heads, without gas flow, indicates that the gas is sealed off in the sand by oil; if the gas were not so sealed, its buoyancy would cause some gas production. Therefore the gas, by inference again, is shown trapped in the roof of the formation. When the plug of oil is lifted to the top, followed by gas as shown at B, the gas pressure is relieved, oil flows into the well bore again, seals off the gas again, and the beginning of the accumulation of another head is shown at C, when the operation is repeated.

That this occurs is indicated by the production of an adjoining well; in one case in particular, with two and one half hour intervals of heads, the adjoining well picked up production between heads being a constantly flowing well, as measured during the heading up of the first well, allowing for the

if you don't like delays specify "JONES"

JONES SUCKER RODS have for years been the standard of all American Oil Fields. They give longer life—cut production costs by eliminating frequent breaks and pulling.
We maintain a corps of experienced field men who cover the East, Mid-Continent and California fields, who work with the Oil Producer to the end that JONES RODS may be made to fit every condition of service.

Do not be misled by foolish claims or misstatements of fact—bear in mind that sucker rods as made by JONES are a technical product, designed, made and tested by engineers. The chemist, the steel man, the metallurgist, the engineer and the oil producer have combined their knowledge and skill in perfecting JONES RODS.

The steel used in JONES RODS is made of our special analysis—every heat is checked—every rod is tested.

There are no "pipes" flaws or weak spots in JONES RODS—scientifically made—evenly balanced—they render long life—economical and dependable service under all conditions.

REPRESENTATIVES EVERYWHERE THERE'S OIL

Established 1893 **THE S. M. JONES COMPANY** Toledo, Ohio

Mid-Continent Office: 601 Wright Bldg., Tulsa, Okla.

JONES ACME Steel SUCKER RODS

lag of production coming up the flow line, the increase and decrease of production of the constantly flowing well not being simultaneous for this reason.

The production of a head well is reduced by the amount of oil that fails to flow into the well during the time pressure is rising around the well on the sand; the amount of gas per unit of oil production is greater than the amount necessary for the same production steadily raised to the surface. Therefore, we can see that a head well almost always responds with a greater production daily, and eventually, with less gas production, when a flow line of correct proportions is installed, because the well is completely evacuated of oil, and the gas pressure lowered more, with a resultant greater discharge of gas.

Balance of Head Wells

Head wells have a peculiar balance of oil flow, of pressure, of gas flow; if gas flows in freely, if the oil flows in freely, if the pressure is too high, the well does not head up; the interval of heads may be from five minutes to thirty-six hours or more, depending upon the proportions of the factors named. We can see that the pressure gradient of a head well changes constantly with pressure.

The method of installing a flow line as to the closure between flow line and casing affects production of oil and gas; location of packer approximate to the sand gives better producing conditions, as will be noted, than a closure between the outside of flow line and casing at the surface. When the closure is at the surface, a casing leak may affect the flow, or a head of oil elevating in the annular space between flow line and casing may cause the well to head, both of which are prevented by the packer at or near the bottom.

The proportion of flow line for this class of well is empirical; the factors, quantity of fluid, quantity of gas, reduction of equivalent atmospheric pressure volume by pressure of the well at inlet to flow line, the liquefaction and solubility factor of gas with the fluid, and the area of eduction pipe, casing or flow line, are so numerous and each so variable that no accurate general empirical formulae have been compiled in shape for general use, but these are so important to the industry, to ultimate recovery, to the economics of petroleum and to the world in general, that the expense of determining these accurately, and placing these determinations in shape for ready use, is worthy of serious consideration.

By way of application, take a specific instance: Well pressure, 720 pounds; production, 920 barrels per day; gas production, 1,650,000 cubic feet per day, measured at four ounces pressure, equal to 1145 cubic feet per minute; a 3½-inch flow line with packer sealing between flow line and casing; the fluid flow equals 2.68 gallons per minute per square inch of uptake area; the gas flow equals 42.7 cubic feet per minute per square inch of uptake area; the proportion of gas at four ounces pressure is 85.4 to 1 of oil, measured at the surface.

But the gas entering the well at the bottom has a volume corresponding to the pressure, and the gas volume, considering it fixed for the moment, is reduced by the computation:

$$\frac{1145 \times 14.7}{720+14.7} = 22.9 \text{ cubic feet at 720 pounds}$$

and the volume of 1145 cubic feet per minute is therefore reduced to one-fiftieth when compressed to 720 pounds.

Next, applying the liquefaction factor, and assuming that it is 30 per cent, or, in other words that 30 per cent of the gas is liquefied at the pressure and temperature of the well. The net volume of gas becomes 16.03 cubic feet per minute, and this is the net effective quantity that we may use in the layout of flowing arrangement. It seems hardly possible that the large quantity of 1145 cubic feet per minute at the surface is so small in volume at the bottom, but it must be remembered that in this case the pressure is high.

Of course, the pressure is not so high that the weight of gas at the well pressure is more than an equal volume of fluid; unless very high pressures are encountered, higher than yet recorded, this is not apt to occur anyway.

Boyle's law, that pressure times volume is a constant applied only to fixed gases and, using the strict term, vapors do not conform to this law. Mixed gases and vapors, as found in the well have an uneven curve of constant; when Boyle's law is used, therefore, and its use is general for this purpose, an additional factor of liquefaction must be applied, else the gas volumes computed are incorrect. Due to the variation in quality of gas from different fields, and from the same well at succeeding phases of well pressure, the liquefaction factor cannot be fixed for all cases but must be ascertained at the time for the particular gas in question; the factor is always variable and always less than unity.

Within a small range, the law holds true for petroleum or any other gas or vapor, but the pressures in well work are over a wide range and the quality of vapors also range widely, and when these calculations are begun, using a uniform pressure-volume constant, results are not uniform because there is no uniformity of constant.

The ascertaining of such factors may appear to be within the province of pure science, rather than applied; as a matter of fact, these computations are purely theoretical mechanics, but by way of diversion who would say that the natural gasoline industry is but the application of principles of theoretical mechanics; pure, rather than applied science. As a matter of interest, the principles upon which the natural gasoline industry are based were outlined more than three hundred years ago by Van Helmont in his theoretical mechanics research; Boyle's law was announced by him in 1662 and Gay Lussac made early experiments upon the liquefaction of gas and vapor. The ammonia ice machine and its great influence upon every day life is another instance of derivation; the carbonic acid industry, depending upon liquefaction of gas; even our welding outfits, using acetylene, are all the outcome of pure science; the principles discovered were not applied for years afterward.

How a Well Flows

The beginning of the flow of a well is at the bottom; as gas enters, it expands due to decreasing pressure in its flow upward; although the flow may have started very slowly at the bottom, the high exit velocities of oil and gas, are the result of the added buoyancy of gas with increased volume, rather than to high velocity coming into the well bore through the sand.

The volume of gas at entrance pressure is usually so small, compared to volume at atmospheric pressure, and the work done is proportional to volume, due to frictional contact, impact, as well as pressure and other factors, when well pressure is lowered by continual evacuation of oil and gas, the increased volume at the lower pressure affords an increase in the duty of gas lifting oil, and a smaller amount of gas performs the same duty. When the oil column is completely evacuated from the casing, the gas volume increases, and although a smaller amount of gas could lift the inflowing oil, gas delivery increases by reduction of well pressure.

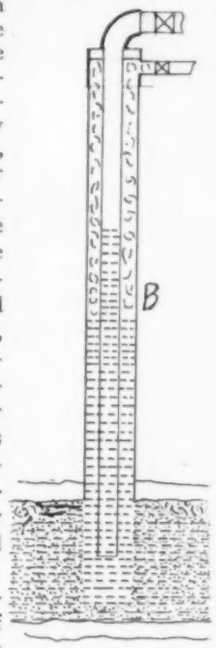


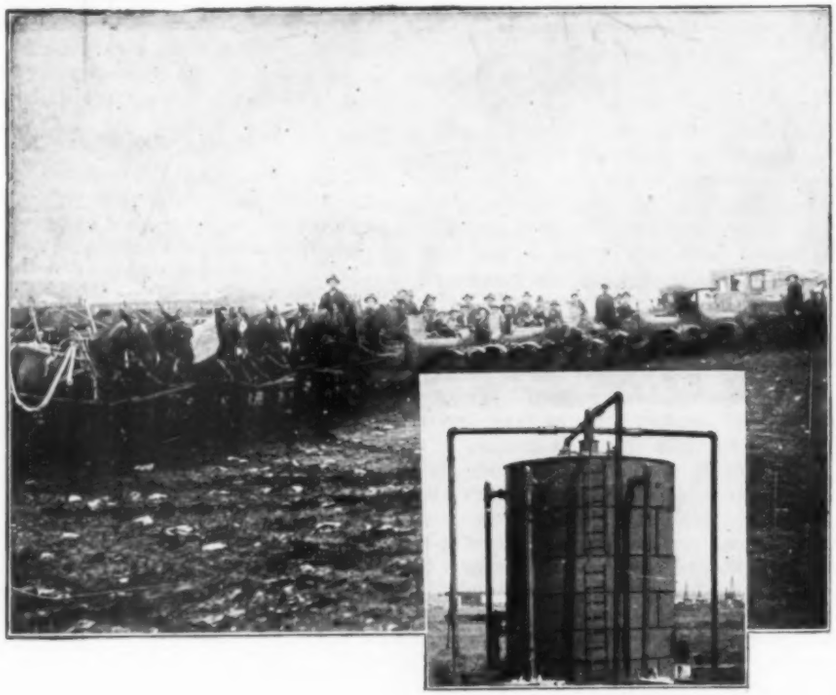
Figure 7.

Herein is the additional duty of gas obtained; when the flow of gas into a well is so balanced by a column of oil in the well, that the well delivers a constant flow at low velocity, without breaking too frequently, the proportion of gas to oil will be found lowest, for the same production, and therefore the gas content serves to lift a greater ultimate quantity of oil, and also a greater quantity of oil per unit volume, and the flowing period prolonged.

Inlets Material

When a flow line is used, the location of oil inlet and gas inlet is of material interest in production, as well as location of packer. Figure 7 shows a

PERFECTION VAPOR PRESSURE TANKS
WOOD, AND BOLTED STEEL TANKS



Our own tank setters ready to get busy at Burbank on a PERFECTION Vapor Pressure battery. Inset—One of the Flow Tanks they erected later.

When Your Well Makes Both Oil and Gas

It's hard to find words to fittingly describe the good points of our Perfection Vapor Pressure Flow tank used as a gas separator.

It's one of the few pieces of oil field equipment that will pay regular dividends instead of being an expense.

The operation of our flow tank is so simple too. It will handle wells making oil and gas in any quantity—big or little it makes no difference—separates the gas from the oil completely and makes available for lease fuel any quantity of gas you may want for that purpose. It's also possible to deliver any quantity of the gas you may desire to the nearest gasoline plant, thus greatly increasing your income.

Built right of best rust-resisting copper alloy steel, extra well braced with stays and struts to more properly withstand pressure and vacuum, provided with fool-proof valves and regulators, the Perfection Vapor Pressure Flow Tank is the last word in mechanical excellence.

A visit to any one of our installations cannot help but convince you.

Black Sivalls & Bryson
INC.

BARTLESVILLE ~ OKLAHOMA

Branch offices in all principal active fields

Say you saw it in The Oil Weekly

well with closure at the top; pressure builds up in the annular space, unbalancing the inside and outside columns of oil, due to gas accumulating in the annular space above the oil and generating pressure, until either the pressure in the flow line due to the added column, shuts the well off, or, if the well pressure is greater than the column, the well flows. This method tends to cause wells to head up, or to be shut off altogether, making starting difficult because oil in the annular space is discharged into the flow line or back into the sand, before pressure is built up in the annular space by gas rising therein. If the flow line is 3 inches and the casing 6 inches, the oil level, with both casing and flow line open at the top, is at the same height inside as out, when the oil content of the annular space is nearly three and one-half times that in the inner line and, when pressure in the annular space drives oil into the bottom of and up the flow line, there is sufficient oil in the annular space to fill the flow line a distance of three and one-half times the standing height in the flow line. Then, when pressure builds up in the annular space, and the standing level in the flow line is equal to well pressure, the additional pressure in the annular space drives oil back into the sand; it cannot flow up the line-column pressure above depresses it—and the oil therefore has no other outlet but back into the sand, and this serves to shut out further gas. Therefore, the pressure in the annular space above oil does not always correspond to the usually computed amount and the two columns have a variable level, depending upon the well itself. To start the well flowing, then, by reducing the flow line oil column level below that of well pressure, so that gas may enter the well and do its work, three and one-half times as much oil must be removed in so doing, which accounts for the difficulty in starting a well with top closure, and for the fact that top closure is not as efficient in starting and flowing a well as bottom closure.

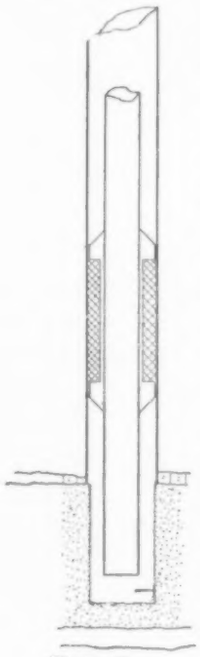


Figure 8.

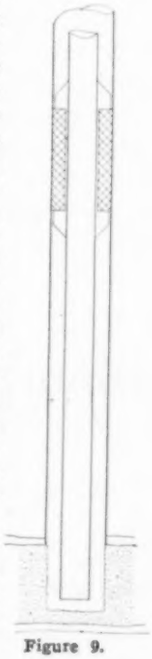


Figure 9.

Figure No. 8, with the packer set at the top of sand, the oil column in the annular space is sealed off and a smaller quantity of oil removed from the flow line unbalances the two columns, when gas may be admitted, starting the well to flowing. Because there is not the larger quantity of oil present in the outer column, that can be pushed back into the sand when pressure builds up in the outer column, starting is more easily done.

With the packer set above the sand, Figure No. 9, a surge chamber is formed, acting as an equalizer of both oil column pressure and gas pressure and quantity of both. Gas comes into the well around the flow line, when the flow line is below the gas entrance at top of sand, and naturally travels up the annular space first, and the annular space pressure and volume of gas must build up enough to fill this space equal to the inner column, before gas is admitted to the bottom of flow line for expulsion to the surface. If the packer is set too high, pressure in the flow line builds up too high; if the packer is set too low, pressure on the sand may be reduced too low for efficient production of maximum oil, because the pressure on top of the oil surface, due to gas in the roof of the sand, which drives oil laterally to the well, approximately at right angle to the surface, is lowered and it is this pressure that we wish to maintain for oil production percentage of recovery, while at the same time, we wish to lower the flow line operating pressure to secure the additional unit volume of gas due to expansion, for securing a greater duty of gas.

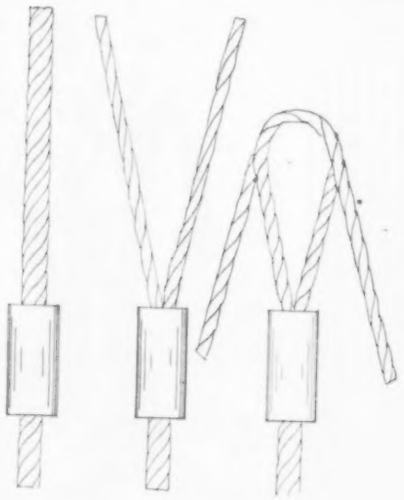
To be concluded in the next issue

Towanda Pool Deserves Listing Among Big Ones

Newkirk, Kansas, Nov. 28.—While naming some of the largest producing leases in the Mid-Continent field one lease in the famous Towanda, Kansas, field, the Gypsy Oil Company's Shumway property in section 11-27-5, Butler County, Kansas has repeatedly been omitted.

This lease it is estimated has produced more oil than all the Wilcox sand wells in the Tonkawa field combined. Back in 1917 the Gypsy-Shumway was noted for its great gushers, at the present time it has produced over 9,000,000 barrels of oil.

The largest wells on the lease were No. 5 and No. 13 but other producers aided materially in keeping the daily average run of the lease above 30,000 barrels for weeks and weeks. No. 5 was perhaps the best well on the property, it having flowed close to 10,000 barrels when 5 months old. The real performances of Nos. 5 and 13 will never be known as they were flowed into earthen tanks along with other producers, and the output was never gauged by individual wells. Many say that No. 5 has never been surpassed in production performance by any well in the Mid-Continent field.



Making Eye on End of Wire Line Without Using Clamps

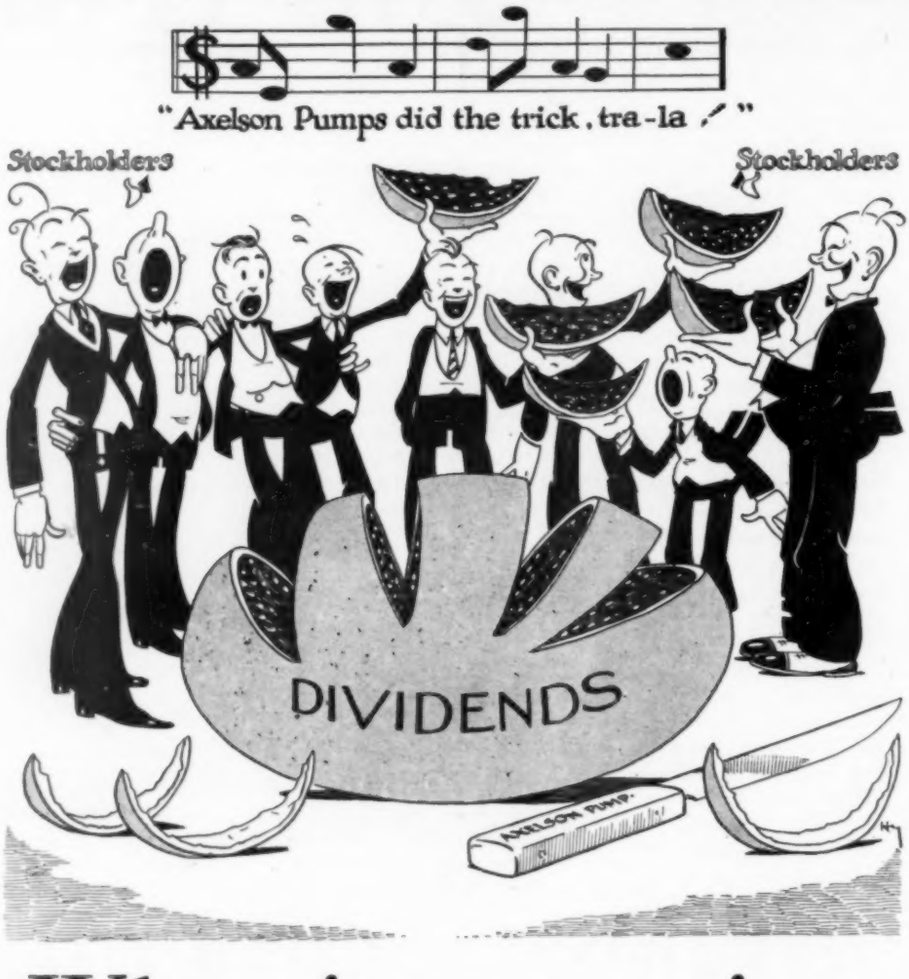
Where it is desired to get a loop so constructed on the end of a wire line that it will not foul on other lines or on other equipment, Henry Mayes of the Huntington Beach field, has a method of fixing an eye by dividing the line and using a nipple. Here is the method in his own words:

"In making a loop or an eye on the end of a wire line to be used for pulling purposes, as on a rod line for pulling sucker rods, a guy line, or for a hold back line for back up tongs, it is hard to make a neat job by using wire line clamps, as such an arrangement will easily foul on other lines.

"This can be avoided by slipping a nipple over the line, then splitting the line two parts of three strands each, allowing the core to remain with one part. The line should be split twice as long as the length of the eye is to be. Then the split sections should be crossed midway of their length and laid together again, permitting the ends to meet where the cable was split.

"The nipple should be slipped over this point and filled with babbitt. The nipple may be drawn down to the size of single line on the end away from the eye."

R. L. Smith has returned to Houston, where he will engage in the manufacture and distribution of oil field specialties. He has been connected with the Titusville Iron Works at Titusville, Penna., as manager of the rotary tool department.



When it comes time to "Cut the Melon"—

—There will be materially more to cut—with bigger and juicier slices for every stockholder—if Axelson Pumps and Sucker Rods have been on the job speeding up production and lowering overhead. These highly efficient Axelson Products are faithfully and economically serving in an overwhelming majority of oil fields; their worth is everywhere recognized; they are invariably the acknowledged favorites! Get catalog today.

Axelson Machine Company

General Office and Western Factory:
P. O. Box 316 Los Angeles, Calif.

Cable Address: "Axelson"

Branch Office: 1023, Kennedy Building, Tulsa, Oklahoma

Codes: A. B. C. 5th Edition, Marconi International, Western Union

New York City Office: 30, Church Street. Cable: "Axelmach."

Burbank Field Considerably in the Red

Large bonuses paid for drilling rights has big part in causing 40 cents per barrel loss

THE Burbank field of Oklahoma has produced 90,977,038 barrels of oil up to December 1, 1924. Of this total of gross production, the working interest claims 74,950,828 barrels while the royalty to the Osage Nation is 16,026,210 barrels.

On the eve of an Osage sale of leases which takes place on December 18, the operating public is interested in the possible outcome of it. Just how active the bidders will be can not be predicted, however, in the face of the increased production being added in the new field at Wortham and the new fields of Oklahoma showing an increase in daily production, it might now appear that an estimate can not be too conservative.

This is the third sale for the current year. The first, which took place on the 18th and 19th of March netted the Osage Nation over $16,000,000, the largest single sale recorded. At this time, the Midland Oil Company broke all previous records by paying $1,990,000 for one 160 acre tract, the northwest quarter of section 14-27-5. On July 30, 1924, after ample time for development, this lease had produced 131,481 barrels from its 16 wells. The daily average production of the lease for the last week in November was 582 barrels.

As the leases sold at the sale in March are on the outside edges of the Burbank field, an analytical study of them should be representative of the future development. The leases sold on June 30 were offset leases to those sold in March and the ones to be sold on December 18 are offsets to the ones sold in June.

A compilation showing the purchaser, the tracts purchased, the production on July 31 and the production for November, on the tracts sold at the March sale follows:

Purchaser	Description	Price	Prod. for July, Bbls.	Prod. for Nov., Bbls.
Midland Oil Company,	SE 13-27-5	$1,580,000.00	59,983	27,000
Prairie Oil & Gas Company,	SW 13-27-5	1,825,000.00	85,715	64,200
Cosden Oil & Gas Company,	SE 14-27-5	1,955,000.00	74,663	36,300
Cosden Oil & Gas Company,	SW 14-27-5	1,790,000.00	29,218	18,900
Phillips Petroleum Company,	SW 11-27-5	1,765,000.00	166,278	69,900
Midland Oil Company,	NW 14-27-5	1,990,000.00	53.487	17,460
Mid-Kansas Oil & Gas Company,	NW 26-27-5	670,000.00	22,330	12,540
Twin States Oil Company,	SW 18-27-6	605,000.00	58,604	34,800
Kewanee Oil & Gas Company,	SE 18-27-6	285,000.00	15,869	13,380
Gypsy Oil Company,	SE 3-27-5	151,000.00	7,329	4,860

The comparison of July and November is given for the reason that it is the opinion of many operators that the peak of production on these leases was reached during the month of July. The November figures show the rapid decline in monthly production. The entire 16 wells have been drilled in on each of the above tracts with three exceptions. These three exceptions include companies who have elected to discontinue drilling on account of the poor showing of the wells already producing on the tracts.

Taking the first 1102 wells drilled in the Burbank field as a basis, the total production of the field was 84,763,238 barrels gross. The working interest in these wells amounted to 74,287,978 barrels while the royalty was 14,475,260 barrels.

Of the total number drilled, there has been 1068 producers, 11 wells completed as gassers and 23 were dry holes. The average cost of each of the producing wells was $41,247 while the dry holes were completed at an average cost of $25,000.

5230 Barrels to Acre

An engineering survey of the Burbank field shows that there are 16,190 acres included in the producing area. Dividing the number of acres into the total number of barrels recovered, the result shows that each acre in the field has produced 5235 barrels of oil. The operating cost of this production has been 20 cents per barrel since the wells were completed. This twenty cents takes care of all lease maintenance including repairs, pumping equipment, labor and storage charges.

In summing up the amount of money spent in the Burbank field, the result is shown in the fact that operators have spent $134,614,788. Of this amount, the purchase of leases has cost $33,203,300 while it has cost $67,353,893 to develop the leases after they were purchased. The operating cost of the leases has been $14,057,595 up to the present time.

Production Costs

Taking the amount of production and the cost in bringing it to the surface, maintaining the lease and delivering it to the pipe line, the average cost to get

Decrease in Light Crude Stocks in California During Month of October

Los Angeles, Calif., Nov. 22.—During the month of October, stocks of light crude oil, 20 gravity and lighter, showed a decrease of 850,427 barrels, according to figures compiled by the West Coast office of the American Petroleum Institute. Stocks of crude below 20 gravity, including all grades of fuel oil, showed an increase of 1,334,323 barrels during month of October. The report covering October gives field statistics for the state of California and stock figures cover all of the West Coast. Naturally practically all of the crude stocks are in California, although considerable of the fuel oil is in states other than California. The figures show a net increase of 483,896 barrels of all crudes, including all grades of fuel oil.

There was a decrease of 614,909 barrels of naphtha distillates, bringing total stocks to 11,375,211 barrels at the end of October. Gasoline stocks in Pacific Coast territory increased 632,536 barrels to a grand total of 10,283,944 barrels. This figure includes stocks at refineries, wholesale stations and in some instances small stocks held at filling stations owned by the larger companies.

At the end of October a total of 456 wells were drilling in the state, 101 of which were wildcats. During October 84 wells were completed with a total initial production of 21,534 barrels, against 95 completions in September with a total initial of 27,473 barrels.

Total production for the state during October is estimated at 18,696,559 barrels, or a daily average of 603,115 barrels. This is against 18,308,233 barrels in September, or a daily average of 610,274 barrels. The daily average production in California in October, 1923, was 792,787 barrels. The Dominguez field for the first time passed the million barrel production mark for a month's period. Long Beach production was 4,228,968 barrels for last month.

During October, 24 drilling wells and 13 producers were abandoned. Eight of the abandoned drilling wells were located in the Long Beach field. During October 87 new rigs were erected over the state, against 82 the previous month. There was an increase of 113 producing wells in the state during October, the grand total being 11,282 wells on production.

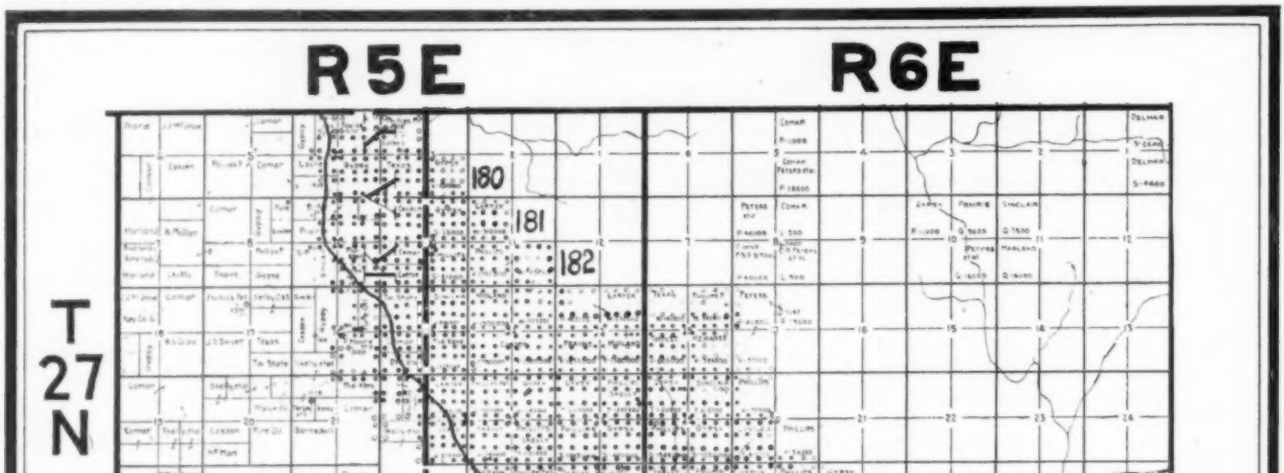
this production has been $1.75 per barrel. If only the working interest is included, the total cost of each barrel brought to the surface up to the present time is $1.91. The cost of production on the Kay County side of the Burbank field has not been as great as the production on the Osage side and only shows a cost of 90 cents per barrel. Taking out the total production of the Kay County side, the average cost per barrel to the operators on the Osage side has been $2.16 per barrel.

Of the gross production already recovered from the field, the operator has just lost 40 cents on each barrel brought to the surface. In one instance an operator has drilled two wells on a 160 acre tract. The two wells which were completed on this tract are now making one barrel each. The total production recovered from the lease has not yet paid for the cost of drilling these two wells. The lease sold for over a half million dollars at auction.

The figures given in this survey might at first seem alarming. To some of the operators it is something to think about. To others the Burbank field has given more than it has taken. There are very few fields in the United States that gave back the money invested to all. The daily average production of the Burbank field for the last week in November was 72,257 barrels. The decline in this daily average has not been so great in the past few months and operators are of the opinion that the field will maintain a fair balance for some time to come. The water encroachment on the west side of the field is possibly the only menace to face the future of the field today.

Following is a composite table of the figures mentioned in this article:

Number of wells producing	1068
Number of gas wells	11
Number of dry holes	23
Cost of average producing wells,	$41,247
Cost of dry holes	$25,000
Producing area (acres)	16,190
Gross Production (Bbls.)	84,763,238
Royalty (Bbls.)	14,475,260
Working interest (Bbls.)	74,287,978
Barrels per acre	5,235
Operating cost per barrel	20 cents
Lease cost at sales	$33,203,300
Development costs	$67,353,893
Operating costs	$14,057,595
Total costs	$134,614,788
Cost for working interest, per barrel	$1.91
Cost for working interest, per barrel Osage side	$2.16
Cost for working interest, per barrel Kay side	.90
Amount due operators on each barrel produced	.40



Map of the Burbank Oklahoma field showing the location and number of leases to be sold on December 18th, 1924. The map shows price paid for previous leases in the Burbank field and the date of sale. The key to the date of sale is as follows: I, 11-9-18; J, 3-5-19; K, 6-6-19; L, 10-6-19; M, 2-3-20; N, 5-18-20; O, 10-12-20; P, 6-14-21; Q, 12-12-21; R, 3-2-22; S, 6-28-22; T, 1-18-23; U, 4-5-23; V, 3-18-24; W, 6-30-24. The black line on the west side of the field is the water line, designating the distance the water has encroached on the field.

FIELD NOTES AND PRODUCTION STATISTICS

California Production on Upturn Once More

Los Angeles Basin production last week was up 8250 barrels, thanks to Long Beach and Dominguez

Los Angeles, Calif., Dec. 6.—Once more production in California shows an increase and in some quarters it is expected that production throughout December will either show further small increases or at least hold its own. The upturn this week in Los Angeles Basin was about 8250 barrels, thanks to Long Beach and Dominguez. There were several small completions at Long Beach and old wells are being worked over to the extent that their production increases more than enough to offset natural declines in the other older producers. Dominguez production has reached a daily average of 42,000 barrels and is expected to reach at least 50,000 barrels a day by the end of the year.

Torrance Declining

The production at Torrance where there are 472 wells on production has declined to 46,000 barrels daily and this decline will bring the field to close to 40,000 barrels daily by the end of December. There are only 38 actively drilling wells at Torrance now and practically no new wells are being started.

Santa Fe Springs' decline in production was brought about by the fire which destroyed 12 derricks and most of the producers were off for several days. There are only six wells drilling at Santa Fe Springs at this time, three of which are drilling below 4000 feet. The Shell Company in this field attempted to develop a real deep sand with its Slusher 6A. The hole reached a depth of 6113 feet without any production. The hole has been plugged back to 4271 feet and an attempt will be made to bring it in at this depth. Several attempts have been made at Santa Fe Springs to find a sand below 5000 feet and as deep as more than 7000 feet, but without success.

Finds Oil Sand

At Rosecrans, Julian Oil Corporation's Athens 1A, in northwest part of the field, has cored a rich oil sand from 4906 to 4918 feet and is inching ahead. It is expected that this well will be on production in the next week or so, further proving the idea of some that production is to be obtained in considerable quantities in that end of the field. On the west side, offsetting the Union's Trust tract, the General Petroleum Corporation had reached a total depth of 6307 feet in its Amstoy 1. This well found an oil sand around 6060 feet but the bit soon passed from the oil sand into shale and prospects now for a well look bad.

In the Dominguez field, the Associated completed its first well this week. DeFrancis 4 came in at 4300 feet for 2500 barrels of 31 gravity oil, penetrating the sand only 360 feet. It started out flowing through 7/8-inch bean with 580 pounds casing pressure and 180 pounds tubing pressure. Three-inch tubing was run to 3730 feet. The Shell Company's Reyes 18 in this field came in for 3025 barrels, as mentioned last week, and has increased to better than 3200 barrels.

Rumor from Desert

Rumors were out this week that the Hesperia Oil & Gas Company's wildcat near Victorville in the desert was showing both oil and gas, but the geologists of California are largely of the mind that no producer will ever be secured. The rumors of oil and gas showing could not be verified.

The West Coast Oil Company, a subsidiary of the Associated Oil Company, is preparing to drill a deep test on the old Wolfskill lease between Santa Monica and Pico boulevards south of the Los Angeles Country Club, just west of the Los Angeles city limits and near Beverly Hills. Derrick is being built now. Fifteen pumping wells on this lease are now producing around 1000 barrels of oil daily and they have been producing since 1909. Present production is coming from around 2500 feet and the new test will likely go to about 5000 feet or probably deeper if conditions warrant. The lease consists of about 200 acres and is located on a small structure.

Good Well in Elk Hills

In the Elk Hills district of Kern county, the Pan American last week completed its No. 3 well in section 34-30-24 at 2996 feet for 1500 barrels of clean oil. The Belridge Oil Company recently completed a good well in this area. The North American was credited with a 100-barrel pumper when its No. 12 in section 30-31-24 in the Midway district of Kern county came in at 3206 feet.

The General Petroleum's wildcat in Kettlemen Hills in Kings county, section 28-22-18, has reached a depth of 5550 feet, with gas showing from 4500 feet on, with some of the formation cutting oil. The drill has been passing through several feet of brown shale and it is understood that a real oil bearing formation worthy of a test is expected after passing entirely through the brown shale. The company has much faith in the well, in that they have erected flow tanks on the lease and even laid a small pipe line to the scene of action.

CALIFORNIA FIELD OPERATIONS

The following table from statistics compiled by State Oil and Gas Supervisor R. D. Bush for California for the past several weeks gives a true insight into field activities:

Month of—	New Wells started	Water Shut-off tests	Deepening jobs	No. Wells aband.
June, 1923	120	195	59	22
July	94	145	46	23
*August	96	141	41	26
September	122	194	39	36
October	114	131	38	25
November	100	151	48	23
*December	105	181	37	32
January, 1924	120	111	48	23
February	125	97	49	47
*March	142	183	81	99
April	130	154	76	34
*May	156	171	79	34
June	118	149	66	18
July	112	129	69	28
August	105	142	86	34
September	87	118	79	35
October	78	101	72	15
Week ending—				
November 1	23	29	17	5
November 8	17	23	22	10
November 15	16	20	13	5
November 22	22	14	29	49
November 29	21	21	16	16

*Denotes months with five weeks.

Appropriation Provided For States' Royalties

Washington, D. C., Dec. 8.—An increase of $1,000,000 in the appropriation for payment to the states of their share from royalties derived by the federal government and bonuses and rentals under the mineral leasing act of 1920, is provided for in estimates for the fiscal year 1926, which has just been submitted to congress by the interior department through the budget bureau. A total of $3,500,000 is provided for this purpose.

The sum of $465,000, a reduction of $44,000 from the present appropriation, is provided for use of the Bureau of Mines for inquiries and investigations into oil, gas and oil shale. The bureau is also given $86,920 for enforcement of the provisions of the leasing acts.

Average Daily Production for all U. S. Fields

Oklahoma

Fields—	Past Week	Prev. Week
Tonkawa	106,740	105,335
Burbank	71,080	72,260
Bristow	50,985	50,930
Cromwell	47,105	47,880
Osage (outside Burbank)	36,790	36,640
Gilcrease-Papoose	30,070	29,570
Cushing	23,485	23,700
Okmulgee	25,290	25,480
Hewitt	18,365	18,500
Wewoka	12,990	12,720
Healdton	12,390	12,470
Duncan and Walters	8 600	8,640
Stroud	3,515	3 760
Other fields	78 845	78,590
Totals	526,270	528,495

Kansas

Greenwood	22,200	21,390
Eldorado	16,980	16,600
Elbing and Peabody	7,985	7,995
Rainbow Bend	7,640	8,000
Fox-Bush	4,870	4,885
Augusta and Douglas	3 000	3,005
Blankenship	2,765	2 800
Florence and Covert	2,380	2,390
Other Fields	20,100	18,900
Totals	87,920	85,965

Louisiana

Haynesville	16,245	16,840
Cotton Valley	9,810	11,700
Caddo Light	9,760	9,635
Homer	6,930	6,940
Vinton	6,040	6,050
Bull Bayou	4,700	4,700
Bellevue	3 395	3 545
Caddo Heavy	2,300	2,290
Lockport (Lake Charles)	1,180	950
Evangeline	870	1,020
Elm Grove	650	635
Edgerly	520	520
Anse La Butte	20	20
Totals	62,490	64,845

Arkansas

Smackover Heavy	73,330	70,630
Smackover Light	30,975	31,145
El Dorado	10,815	11 020
Stephens	1 990	2,010
Irma	1,365	1,310
Totals	118,475	116,115

California

Los Angeles, Calif., Dec. 6.—The daily average production of the California fields for the past week, compared with the previous week, with number of producers in several fields the past week, was about as follows:

	Past Week	No. Prod. Wells	Prev. Week
Long Beach	131,000	502	128,000
Santa Fe Springs	53,500	342	54 000
Torrance	46 000	472	47,250
Huntington Bch.	43,000	291	43,500
Dominguez	42,000	33	35,000
Rosecrans	7,500	12	7,000
Others	282,000		279,250
Totals	605,000		594,000

Wyoming-Montana-Colorado

The average daily pipe line runs from all the fields in the Rocky Mountain district for the week ending December 6 was 3880 barrels less than the total runs for the previous week. Runs for both weeks are shown for comparative purposes:

Fields—	Past Week	Prev. Week
Salt Creek	58,000	60,200
Lost Soldier	5,050	4,600
Big Muddy	3,715	3 910
Grass Creek	3,230	3,075
Cat Creek	3,150	3,335
Kevin-Sunburst	3 035	3,090
Rock River	3,020	3,665
Teapot	1.680	2,225
Craig	1.135	1,140
Lance Creek	1.025	1,000
Elk Basin	850	1,020
Hamilton Dome	600	1,020
Poison Spider	440	520
Lander	375	315
Osage	365	335
Notches	185	275
Greybull, etc	105	90
Pilot Butte	85	80
Ferris	65	50
Miscellaneous	775	820
Totals	86,885	90,765

Texas

NORTH-CENTRAL

Fields—	Past Week	Prev. Week
Corsicana-Powell	65,070	67,650
Archer County	39,770	40,135
Mexia	23,500	23,100
Electra	19,400	18 945
Richland	17,900	18,300
Burkburnett	16,895	16,545
Stephens County	16 385	16,675
Reagan County	8,630	7,290
Ranger-Eastland	5,870	6,160
Vernon-Wilbarger County	5,500	4,880
Desdemona-Gorman	5 340	5,525
Wortham	4,500	9,000
Young County	3,755	3,955
K-M-A	2 585	2,660
Moran-Shackelford County	2,730	2,845
Currie	2,600	2,630
Mitchell County	1,550	1,540
Callahan County	1,460	1 440
Panhandle District	1,180	1,360
Iowa Park-Shappell	1,040	1 090
Brown County	720	720
Strawn-Palo Pinto County	685	710
Petrolia-Clay County	345	435
Coleman County	70	65
Thrall-Williamson County	70	75
Scurry County	50	40
Throckmorton County	40	35
Jack County	25	25
Totals	247,665	253,830

GULF COAST

Hull	16 300	16,300
Orange	11,220	12,200
West Columbia	12,250	12,400
Goose Creek	9,570	9 600
Humble	4,910	5,110
Sour Lake	4,050	3,960
Big Creek	1,250	2,100
Batson	1,640	1,620
Saratoga	1 480	1,500
Damon Mound	1,240	1,340
Spindletop	1,250	1 120
Blue Ridge	700	570
Pierce Junction	500	750
Barbers Hill	130	135
Nacogdoches	110	110
High Island	90	90
Marham	65	65
Dayton	45	45
Hockley	10	..
Totals	66,810	69,015
Luling	35,000	35,000
Mirando	10,300	9,400
Somerset	4,400	4,400
*Misc. South Texas	1,120	1,160
Totals	50 820	49,960
Totals Texas	365,295	372 805

*Includes Callahan, Rockdale and Minerva.

Condensed U. S. Production for Twelve Months

(Stated in Barrels)

This table is carried each week by The OIL WEEKLY, and shows daily production average for each state or section. Figures for Oklahoma, Kansas, Texas, Louisiana, Arkansas and Mountain States are compiled by The OIL WEEKLY, while estimates for California and Eastern States are furnished by the American Petroleum Institute.

Daily average for month	*Mid-Continent	North Central Texas	Texas Coastal	Texas Total	Kansas	Okla.	Louisiana	Eastern States	Wyo. Mont. and Colo.	Calif.	Ark.	U. S. Total
May	793,774	203,776	90,905	304,032	85,500	504,498	75,368	109,125	125,680	700,125	109,033	2,010,840
June	824,297	217,162	92,240	320,250	85,255	521,880	72,745	110,300	129,559	773,000	133,592	2,159,818
July	866,665	274,330	91,795	378,335	84,785	508,405	70,085	113,000	137,300	851,000	132,395	2,275,305
August	826,982	278,574	94,398	393,780	82,741	464,416	68,739	112,625	137,909	866,250	123,000	2,251,966
September	830,517	371,730	93,649	443,461	77,078	421,763	68,935	108,400	157,742	858,700	127,955	2,269,176
October	876,059	408,036	84,120	511,483	71,362	371,657	65,305	107,750	139,912	823,125	125,145	2,240,741
November	935,975	479,383	82,747	580,700	69,337	287,253	64,701	108,125	151,225	768,275	124,188	2,253,806
December	729,591	283,130	78,033	378,478	68,444	378,017	61,138	110,300	146,770	723,845	120,045	1,987,041
January (1924)	685,540	243,120	75,085	334,485	67,815	374,605	59,125	108,000	144,735	698,965	114,255	1,900,985
February	729,933	254,180	81,131	362,849	68,183	407,568	59,449	104,500	141,775	675,425	114,726	1,934,476
March	762,684	284,874	78,567	388,221	69,864	407,946	55,783	97,800	128,352	650,790	119,869	1,917,023
April	777,590	276,595	76,755	380,005	71,015	429,980	54,740	101,250	127,700	649,825	128,750	1,943,270
May	763,320	267,475	74,175	374,915	71,490	424,355	60,655	103,800	127,770	640,930	148,630	1,952,545
June	799,230	260,785	74,335	375,310	74,265	464,175	62,660	105,750	125,735	628,400	157,165	1,993,465
July	815,830	254,665	75,445	378,365	81,545	479,620	63,855	107,175	124,305	620,175	148,655	2,003,695
August	861,640	254,520	75,700	377,045	85,765	521,355	62,595	107,000	123,895	619,200	142,740	2,037,890
September	886,650	253,243	76,953	366,197	86,758	546,647	62,162	107,622	117,345	611,500	131,343	2,029,580
October	855,823	247,222	75,713	359,861	86,884	521,717	62,493	106,600	107,270	605,060	123,235	1,972,902
November	851,733	248,467	71,648	369,621	86,031	517,237	66,117	106,375	91,205	594,000	119,893	1,950,478
*December 5	861,855	247,665	66,810	365,295	87,920	526,270	62,490	106,500	86,885	605,000	118,475	1,958,835

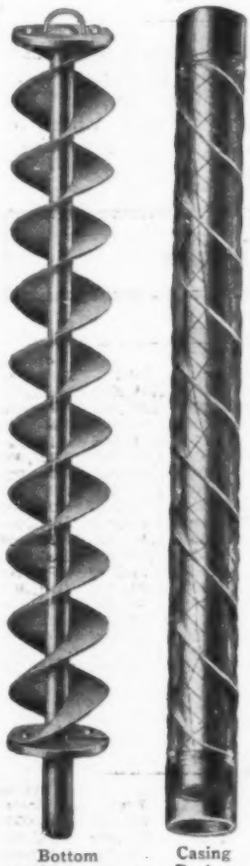
*Includes North Central Texas, Kansas, Oklahoma.
NOTE—Mexia production included in North Central Texas.

GUIBERSON PACKER SET FIVE DIFFERENT TIMES WITHOUT RE-PACKING

A California operator recently advised us he had set a GUIBERSON Packer five different times without repacking, had secured a tight seal every time, and had experienced no trouble in withdrawing the packer each time.

This is just ORDINARY service for the GUIBERSON Spiral Packer. It operates on the same principle as our famous bottom water plug, oakum packing being compressed uniformly between the spirals. No rubber is used, and there is consequently no "freezing" to the casing and tearing of packing. The packer easily releases its grip when subjected to an upward pull. It can be used again and again, with possibly a little renewing of the oakum from time to time.

The only packer which gives UNIFORM compression of packing throughout its length.



Bottom Water Plug — Casing Packer

"Better Be Safe Than Sorry"

THE GUIBERSON CORPORATION

Box 1106, DALLAS, TEXAS

OKLAHOMA BRANCH: 402 W. First St., Tulsa

CALIFORNIA BRANCH: 1737 E. 7th St., Los Angeles

318 First Nat'l Bank Bldg., Houston

506 Trust Building, Newark, O.

GUIBERSON

BETTER BE SAFE THAN SORRY

Say you saw it in The Oil Weekly

Rocky Mountain Association Reports Successful Meeting

Casper, Wyo., Dec. 8.—The third annual meeting of the Rocky Mountain Oil and Gas Association closed at Casper Wednesday with a record attendance of more than 200 members and guests. Each state in the Rocky Mountain region had two or more delegates and more than half the oil states of the country were represented in one capacity or another.

Resolutions suggesting remedies for most of the burdens under which the oil and gas industries are laboring were passed by the organization. A resolution urging the creation of a better market for black oil, one of the most smothered arms of the petroleum industry in the Rocky Mountains, was passed and all through the convention the sympathy of its members was with the producers of this particular grade of oil. Practically all of the members of the organization expressed themselves as being in favor of the standardization of all oil well tools and equipment. Supply men took a leading part in the discussion and promised to use all possible influence in bringing about the change for uniformity.

During the two days of the convention almost every phase of the industry was discussed and often the discussion led to problems only indirectly connected with producing oil and gas. Filling station problems, supply house enigmas, the future prices of gasoline, how to run a filling station profitably and many other problems were discussed and wherever the discussion led there was always someone whose own experiences helped things to move along swiftly and quietly.

The Bureau of Mines was commended by the larger operators for its fairness and for its valuable aid in conserving the natural resources of the region. An agreement between the Bureau of Mines and the operators has never been broken and the spirit of cooperation has always been manifest, it was brought out.

The following officers were elected: B. B. Brooks, president; Max W. Ball, first vice-president; W. L. Connelly, second vice-president; John C. Howard, third vice-president; E. B. Cooldige, fourth vice-president; Robert D. Wallace, treasurer; C. W. Sparr, temporary secretary. The executive board will consist of Minal E. Young, Judge Fred W. Freeman, L. C. Klein, R. S. Ellison, A. Baker and L. A. Miller.

L. S. Allen Has New Connection

Tulsa, Okla., Dec. 8.—L. S. Allen with offices at 309 West First street here has been appointed Mid-Continent representative for the United Alloy Steel Corporation of Canton, Ohio, manufacturers of every grade of steel and specializing in electric steel suitable for the oil industry. Allen formerly was with the Sizer Steel Corporation in this territory and has a host of friends in the oil trade.

Los Angeles Shipments

Los Angeles, Calif., Dec. 6.—Only 16 tankers left Los Angeles Harbor the past week and only one cargo of crude, 105,000 barrels, went to Atlantic domestic. One tanker of fuel went to Pacific foreign and one tanker of gasoline went to London. Record for the past two weeks follows:

	Past Week	Prev. Week
Tankers departed	16	32
Total crude moved	488,305	1,470,964
Total fuel moved	539,044	397,548
Total gasoline	165,657	307,182
Total kerosene	.....	58,733
Total Diesel	.....	16,616
Crude, Pacific domestic	383,305	522,533
Fuel, Pacific domestic	410,044	86,601
Gasoline, Pacific domestic	14,700	86,575
Crude, Atlantic domestic	105,000	571,489
Gasoline, Atlantic domestic	76,768	39,607
Crude, Foreign	.....	376,942
Fuel, Foreign	129,000	310,947
Kerosene, Foreign	.....	58,733
Gasoline, Foreign	74,189	181,000
Diesel, Foreign	.....	10,000

Wm. Barr, Jr., production manager for Regan Forge and Engineering Company, San Pedro, Calif., left last week for Wortham, Texas, to look over the new field. He will spend several days in Fort Worth also.

L. F. Baash, president of Baash Ross Tool Company, headquarters at Los Angeles, left Los Angeles this week for Wortham, Texas, where he will see how much of his firm's supplies are needed.

Imports of Petroleum at Principal United States Ports

The following represents the total imports of crude oil for the month with the current month given by weeks:

	Atlantic Ports						Gulf Coast Ports					
	Baltimore	Boston	New York	Philadelphia	Others	Total	Galveston	N. Orleans Baton Rge.	Port Arthur Sabine Pass	Tampa	Total	Total at All Ports
October	365,000	292,000	1,194,000	536,000	816,000	3,203,000	988,000	1,330,000	380,000	50,000	2,248,000	5,951,000
November	223,000	395,000	1,194,000	576,000	757,000	3,145,000	1,478,000	1,000,000	551,000	111,000	3,287,000	5,432,000
December	474,000	574,000	1,243,000	606,000	1,024,000	3,917,000	2,019,000	1,832,000	933,000	259,000	5,043,000	8,960,000
January, 1924	398,000	531,000	1,060,000	376,000	949,000	3,314,000	1,295,000	887,000	689,000	15,000	2,936,000	6,250,000
February	520,000	527,000	639,000	458,000	771,000	2,865,000	1,558,000	1,284,000	525,000	195,000	3,562,000	6,427,000
March	802,000	734,000	1,243,000	502,000	1,668,000	5,049,000	2,346,000	1,689,000	1,116,000	301,000	5,257,000	10,281,000
April	653,000	664,000	1,371,000	407,000	1,067,000	4,162,000	1,641,000	1,492,000	510,000	68,000	3,711,000	7,873,000
May	693,000	618,000	1,368,000	264,000	1,329,000	4,272,000	1,398,000	1,308,000	884,000	169,000	3,759,000	8,031,000
June	515,000	466,000	1,864,000	292,000	1,026,000	4,163,000	1,769,000	1,079,000	685,000	145,000	3,678,000	7,841,000
July	375,000	260,000	1,971,000	179,000	1,114,000	3,899,000	1,418,000	1,211,000	579,000	153,000	3,361,000	7,260,000
August	463,000	400,000	1,958,000	468,000	788,000	3,945,000	1,857,000	1,210,000	547,000	80,000	3,694,000	7,639,000
September	437,000	193,000	828,000	330,000	878,000	2,666,000	1,090,000	1,350,000	605,000	87,000	3,132,000	5,798,000
October	665,000	.....	1,588,000	136,000	224,000	2,590,000	658,000	1,090,000	285,000	70,000	2,103,000	4,643,000
November 1	65,000	132,000	74,000	200,000	79,000	550,000	483,000	245,000	252,000	60,000	1,040,000	1,590,000
November 8	200,000	175,000	591,000	229,000	286,000	1,481,000	206,000	269,000	60,000	.....	535,000	2,016,000
November 15	310,000	.....	444,000	110,000	181,000	1,045,000	407,000	343,000	144,000	20,000	914,000	1,959,000
November 22	124,000	66,000	237,000	181,000	283,000	891,000	478,000	489,000	108,000	45,000	1,120,000	2,011,000
November 29	123,000	.....	577,000	189,000	262,000	1,151,000	526,000	190,600	50,000	20,000	786,000	1,937,000

NOTE—Figures by American Petroleum Institute.

Receipts of California Oil at Atlantic Coast Ports

The following shows the receipts of California oil at Atlantic Coast ports by months with the current month given by weeks:

	Atlantic Ports						Gulf Coast Ports					
	Baltimore	Boston	New York	Philadelphia	Others	Total	Galveston	N. Orleans Baton Rge.	Port Arthur Sabine Pass	Tampa	Total	Total at All Ports
October	779,000	224,000	2,503,000	779,000	429,000	4,714,000	.....	746,000	.....	.....	746,000	5,460,000
November	591,000	155,000	2,302,000	584,000	271,000	3,903,000	.....	935,000	.....	.....	935,000	4,838,000
December	454,000	215,000	2,901,000	813,000	753,000	5,136,000	.....	729,000	.....	.....	729,000	5,213,800
January	619,000	77,000	3,156,000	659,000	503,000	4,660,000	.....	615,000	.....	.....	615,000	5,275,000
February	326,000	145,000	2,811,000	842,000	75,000	4,199,000	.....	810,000	.....	.....	810,000	5,009,800
March	298,000	77,000	3,352,000	989,000	413,000	5,129,000	.....	.....	.....	.....	.....	5,129,000
April	170,000	77,000	2,633,000	378,000	224,000	3,482,000	.....	.....	.....	.....	.....	3,482,000
May	190,000	147,000	2,771,000	411,000	273,000	3,792,000	.....	315,000	.....	.....	315,000	4,107,000
June	522,000	147,000	2,490,000	443,000	220,000	3,822,000	.....	.....	.....	.....	.....	3,822,000
July	167,000	70,000	2,017,000	374,000	188,000	2,816,000	.....	75,000	.....	.....	75,000	2,891,000
August	400,000	.....	2,914,000	288,000	520,000	4,354,000	.....	30,000	.....	.....	30,000	4,384,000
September	290,000	148,000	2,737,000	327,000	81,000	3,583,000	.....	.....	.....	.....	.....	3,583,000
October	378,000	217,000	2,338,000	379,000	160,000	3,472,000	.....	.....	.....	.....	.....	3,472,000
November 1	.....	.....	513,000	164,000	.....	677,000	.....	.....	.....	.....	.....	677,000
November 8	.....	223,000	337,000	.....	80,000	640,000	.....	.....	.....	.....	.....	640,000
November 15	180,000	.....	387,000	105,000	.....	672,000	.....	.....	.....	.....	.....	672,000
November 22	185,000	.....	506,000	.....	.....	691,000	.....	.....	.....	.....	.....	691,000
November 29	147,000	.....	266,000	58,000	80,000	551,000	.....	.....	.....	.....	.....	551,000

NOTE—Figures by American Petroleum Institute.

Danger of Oklahoma Oil Flood Passing

Operators believe that production will tend downward during winter; drilling plan modified

Tulsa, Okla., Dec. 9.—Although there are several small areas in the state of Oklahoma now in the limelight, operators are of the opinion that none of them will cause any serious damage during the coming winter months.

The Papoose area, the deep sand at Tonkawa and the new potentialities of Lincoln County which have loomed up from time to time to effect the daily average production of the state, are now outlined to such an extent that their future is known. It is now fair to predict that the production of the state will emerge from the winter at approximately the same figure as it has entered it. It is more probable that the daily recovery will be under the present figures by the latter part of March.

While operators are yet expressing doubt as to the probable effect of the new Wortham crude, it is obvious that the development there is having some effect upon drilling activities. Extensive plans for drilling wildcat acreage in both Oklahoma and Kansas have been modified during the past three weeks. The present production of the independent operator will not be affected by this added production and they will still receive their premiums from the smaller refiners, but with the smaller refiner having about all the pipe line connections necessary to meet requirements, the independent producers are of the opinion that there is very little room for new recoveries of crude oil.

Papoose a Major

With 15 producers in the northeast extension of the Papoose pool making 20,000 barrels per day and several of the wells three or four months old, it is not a hard matter to understand why the field is now entering the major class. Although the northeast end of the field has been the reviving unit of the Papoose pool, the direct north area has possibly been defined by the completion of the McMann Oil and Gas Company dry hole in the southeast of the northwest of section 35-10-9. Just one section south of the McMann dry hole, the Independent Oil and Gas Company No. 1 Alexander, in the northwest of the northeast of the northeast of section 2-9-9 is reported to be making 85 barrels per hour. This well was reported last week as making 1300 barrels of oil and cutting 4 per cent B. S. and water, a possible indication that the well might be near the end of the structure, but this theory might be without grounds from the expression of the company's officials that the water was coming from behind the pipe and not from the sand.

A northeast extension well for the Cromwell pool was completed by the Gypsy Oil Company in their No. 11 Yarhola in the center of the northwest of the southwest of section 3-10-8, a half mile from the nearest producer. Topping the sand at 3357 feet for a five million cubic foot flow of gas and drilling to a total depth of 3397 feet, the gauge showed an hourly production of five barrels. The Sinclair Oil & Gas Company No. 1 Yarbrough, southwest of the northwest of the northeast of section 4-10-8, the farthest northwest well in the pool and less than one quarter of a mile south of the 11-8 township line, is averaging 2000 barrels of oil per day from a total depth of 3434 feet.

The Wentz Oil Corporation claim to have the best high gravity oil well ever drilled in the United States in their No. 45 McKee, in the deep sand area of the Tonkawa field.

The Wentz producer came in August 4, making 5,842 barrels, daily. It was deepened and on August 27 made 10,500 barrels, the largest well found in the deep sand.

The total production has been more than 800,000 barrels. The well is today making 6,864 barrels per day after being deepened to the second pay in the deep Slick sand at 4,255 feet. Oil from the well tests 42 gravity.

Hughes County

Operations in the new Roxana Petroleum Corporation pool in township 8, range 8 in Hughes County, have been rather disappointing during the past week. The discovery well of the Roxana company, in the northwest of the northeast of the northwest of section 12-8-8, averaging 1680 barrels per day and 801 barrels of water for the week previous, increased its flow 150 barrels of oil and 150 barrels of water during the past week after drilling deeper. Sinclair Oil and Gas Company's No. 1 Manley, an offset well in section 1-8-8 found the sand at 3470-76 feet and has a hole full of water. No. 2 Culler, one of the Roxana offsets made three small flows of 10 barrels each from a total depth of 3435 feet with no gas showing from the sand. The third offset to the discovery well, the property of the Berry Petroleum Company, is reaming at 3220 feet. Roxana's No. 1 Chupco, southwest of the southeast of the southwest of section 1-8-8, which was flowing 47 barrels per hour last week, is now making 8 barrels per hour and 30 million cubic feet of gas.

The producing area of the deep sand at Tonkawa has been ertended one location west by the drilling in of the Wentz Oil Corporation No. 47 McKee, northeast corner of the northeast of the southwest of section 34-25-1-west. From a depth of 4249 feet, the new producer made 3457 barrels during the first 18 hours. As a result of this completion, the production from the deep sand has reached 87,698 barrels from 51 wells.

Most of the new deep sand wells are now drilling deeper, which accounts for the increase in the production.

Pennock Oil Company is reported to have a hole full of water in their No. 6-D Endicott, in the southeast of the southwest of the southeast of section 34-25-1 west while drilling at 4242 feet. This well was the fifteenth producer for the deep sand and topped the pay at 4241 feet.

The Pure Oil Company's No. 1 Leake, in the southeast of the southwest of section 12-14-4, Lincoln County, near Chandler, topped a gas sand at 3714 feet and oil sand from 3732-34 feet. The well made a ten barrel flow of 39 gravity oil. This company, after this showing of oil purchased the east one-half of the northwest of section 2-14-4 for $125.00 per acre and the southeast quarter of section 14-14-4 for $75.00 per acre. It is also reported that the company has purchased six additional blocks.

Magnolia Petroleum Company's No. 1 Smith, southwest corner of the southeast of section 34-15-5, Lincoln County, discovery well of the Davenport district, has been drilled three feet deeper to a total depth of 3448 feet with the bit still in the sand topped at 3424 feet, made 122 barrels during the first 12 hours after deepening.

The Empire Companies have taken over the old Blackwell Oil & Gas Company gas line running east of Blackwell and are connecting it to their main line. The Empire companies will take approximately fifty million cubic feet of gas per day out of the Blackwell field, which is all the excess gas production of the Blackwell Oil & Gas Company, paying seven and one-half cents per thousand for same.

Holm and Jarvis and the Independent Oil & Gas Company have a good showing of oil and gas in their wildcat well in the northeast of the southeast of the northeast of section 7-8-9 in Hughes County. The sand in this well, found at 3610 feet is thought to be the same as found in the Cromwell area. One million cubic feet of gas is flowing from the well.

The Midland Oil Company test in section 12-25-5 near Remmington and south of the Burbank field in Osage County, which had a very promising show last week, has but 300 barrels of oil in the hole with some water as a result of drilling deeper.

Montgomery County Gasser Injects Interest Into Southeastern Kansas

Wichita, Kansas, Dec. 9.—New interest was injected into the southeast Kansas deep sand development last week by the discovery of gas in large quantities in the Wilcox sand formations.

The Estey-Eisenbaugh well on the Whipple farm, the second location south of the northwest corner of the northwest quarter of section 25-34-13, has an estimated gas production of 12,000,000 feet a day. The well is located three miles north of Caney, just over the Oklahoma line in Montgomery County, Kansas. The lime was first found at 1,501 feet in the test and the cap rock at 1,786 feet. After five feet in the cap rock it began to show gas and as drilling continued it grew in volume.

The well is the first to show gas in quantities in the second break since the development commenced in the Lamb pool southeast of Coffeyville, over a year ago. Some of the wells have been flowing but with no great gas pressure. The well is now spraying oil and a good production may also be obtained.

The Neely Oil & Gas and Marland Refining Company's No. 1 Holt, in the northeast corner of the southeast of the southeast of section 12-32-14, Winfield district, swabbed 100 barrels from sand found at 2617 to 2625 feet.

The southeast Kansas oil fields are looking better. The Oil Well Supply Company is going to install a machine shop at Winfield and the Continental Supply Company has broken ground for a building to house an increased amount of business. Skelly Oil Company has completed preliminary work for the construction of a pipe line into Cowley County from Sedgwick County. The pipe line will connect with the gathering lines of the Skelly refinery located at El Dorado. Roxana Petroleum Company is surveying for a pipe line from its Arkansas City refinery to the Spreuns well in section 9-33-3. The same company is planning to construct another line from its refinery to the pool east of Winfield, in section 24-32-4.

Marland Oil Company's No. 2 Graham, in the southeast corner of the northeast of the northeast of section 9-33-3, Graham-Wilcox pool, west of Winfield, swabbed 250 barrels in 24 hours from sand found at 2558-64 feet.

Black & Landon report a hole full of oil from 1539-41 feet in their wildcat test in the northeast of the southwest of the southwest of section 21-32-15, Montgomery County. The oil tests 25 degrees gravity. This marks the discovery of the ninth Wilcox sand pool in Montgomery County if it proves of commercial value.

Help!

WALTER O'BANNON himself said that no field man who knew the Stewart Safety would have any other kind of a Sucker Rod Hook. The records indicate that O'Bannon was right.

But we need help in merchandising this thing. We need for every producer in the country to go to his supply house and demand this Stewart Safety Sucker Rod Hook on trial.

If Your dealer doesn't have it, literature on the Hook and the name of a supply store in your field who does have it may be obtained by addressing the Walter O'Bannon Co., 817 E. First St., Tulsa, Oklahoma.

GOOD PEOPLE TO DO BUSINESS WITH

Pelican Well Tool & Supply Co.

General Offices: Shreveport, La.

Japanese Visit Roumanian Fields

London, Eng., Dec. 2.—Cable advices from Bucharest state that a party of Japanese geologists headed by Masaji Yamagochi, who is a director of the Nippon Petroleum Corporation, are enroute to Roumania to make an extensive survey of the oil regions in that country. Crude oil production in Roumania for last month will approach 1,250,000 barrels.

New York, N. Y., Dec. 6.—Stockholders of the Pennok Oil Company have approved the plan to dissolve the company and dispose of its assets to the newly formed company, the Pennok Oil Corporation.

Proposes Oil Duty

Washington, D. C., Dec. 6.—In a speech before the House of Representatives today, Congressman T. B. McKeown urged a tax of 25 cents a barrel on all crude oil imported into the United States. He further proposed that the money derived from this tax be turned over to the secretary of the interior to be used in conserving the mineral resources of the country and to investigate probable producing oil fields.

Penn Test Reduces Wortham Potentialities

Area of prospective field cut down by recent test; drilling continues rapid

Wortham, Texas, Dec. 9.—Unsuccessful efforts to make a producing well from R. R. Penn and others' test, located one and one-quarter of a mile northeast of production and in the supposed trend of the structure, after logging 52 feet of the Woodbine sand formation at a total depth of 2996 feet lessened the possibilities of the new Wortham field covering as much territory as early estimates predicted. Until the final outcome of the Penn test is fully determined, nearby lease owners are not making any new locations, but development of leases situated between the two producing wells brought in last month by the Boyd Oil Company is being pushed at top most speed. The unfavorable reports from the Penn test have not had any noticeable effect on the fulfillment of development programs on acreage lying between the two completed producers, and orders for additional drilling equipment and storage tanks were being placed early this week.

The Penn test is located on the L. H. McCorkle 15-acre lease, near the east edge of the Wortham townsite, where the highest prices for leases have been paid, and is conceded to be 30 feet higher on the structure than the Boyd Oil Company's big well on the Simmons tract. The Boyd Oil Company and Atlantic Oil Producing Company purchased a one-quarter interest each in the Penn test and the lease several weeks ago. The Austin chalk formation was logged from 2203 to 2546 feet with broken chalk and shale continuing to 2558 feet, and the elevation of the test is 470 feet. The top of the Woodbine sand was encountered at 2944 feet when the test began drilling last week, and after penetrating the sand a short distance traces of oil were in evidence on the slush pit. The last show of oil was encountered at 2962-86 feet, but the sand pay did not respond when bailed and tested. F. Julius Fohs, vice president and geologist for the Boyd Oil Company, and R. B. Whitehead, chief geologist for Atlantic, have supervised the drilling in of this test. Late reports from the field Tuesday evening stated bailing was being continued, and that deeper drilling would be resorted to during the night or early Wednesday morning in a final effort to bring in a producing well.

In the event of a dry hole resulting from the Penn test, the prospects for a big flush production being built up from the town lot drilling in Wortham will be reduced somewhat, although it is not an impossibility that the field is exceptionally narrow at this point. The Penn test is situated almost in the center and south of the two deep dry holes flanking the supposed structure on the upper end. These two dry holes are about a mile apart, leaving bare possibilities for the field to skirt the Penn test and still go across part of the townsite and beyond the two failures. It is of interest to note that after the Penn test cemented casing and drilled plug with no oil or gas showing, both the Boyd and Atlantic Companies purchased more protection acreage lying a short distance to the east and southeast, and paid prices in excess of $5000 per acre.

Kirby Petroleum Company's Roy Simmons 1, located about 500 feet due north and slightly east of the big Simmons producer and west of the railroad tracks, showed promising indications of making a producer Tuesday when the Woodbine sand was drilled to 2963 feet, with the last 13 feet of pay making oil and gas. A liner was run Tuesday night, and bailing was to be started Wednesday morning. This test encountered the top of the chalk at 2437 feet, and cemented casing at 2915 feet. In the same section of the field, the E. L. Smith Oil Company et al's A. Beal 1, is reported to have cemented casing at 2809 feet, and will drill in late this week. The same interests' south offset to the Penn test near the townsite, encountered the top of the Austin chalk at 2209 feet, and is drilling in hard chalk at 2230 feet at last reports.

Production from the Boyd Oil Company's big well on the Simmons lease was increased to 8180 barrels daily with no water showing early this week when flowed open, and on the following day produced 7680 barrels. The same company's discovery well on the N. B. Boyd lease is holding to about 900 barrels daily, with no water showing.

Scarcity of water for drilling purposes is delaying drilling in all sections of the field, and reports compiled late last week credited the field with 35 tests actively underway; 59 rigged up and ready to spud; 34 derricks, and 55 locations awaiting the arrival of timbers from distant points, or developments on nearby leases. Drilling equipment has been shipped into Mexia and Wortham in solid train loads by some of the major companies from other rotary developed fields, while the supply companies have reaped a harvest of orders for completed drilling outfits, casing, flow tanks, water, gas and oil lines, and miscellaneous supplies.

The Boyd Oil Company has contracted to deliver three million barrels of its expected production in the Wortham field to the Prairie Oil & Gas Company at a fixed price of $1.25 per barrel, and is to receive an advance of $1,000,000 from Prairie on the first of January to proceed with the development of the Wortham acreage. According to the terms of the contract, the Boyd Oil Company is to deliver three-fourths of its daily production to Prairie until the contract is filled, and Prairie agrees to take and purchase a maximum of 30,000 barrels daily, while the excess will be stored in the field by Boyd Oil Company. This contract will materially reduce the possibilities of the Boyd Oil Company having to hold back its flush production in the event the field reaches an over-production stage, and will practically eliminate Prairie from soliciting additional connections in the field, owing to the large quantity of likely producing acreage held in the field by Boyd.

The Marland Oil Company of Texas has closed a deal to get its four scattered leases, amounting to a total of 43.3 acres, in the Wortham field developed and operated on a royalty basis by Simms Oil Company, Cranfill Brothers Oil Company, and Murchison & Fain. Marland will receive three-eighths of the total production, while Simms Oil Company will receive two-eighths, and Cranfill Brothers Oil Company and Murchison & Fain will share a two-eighths interest in the production for defraying the costs of developing and operating the leases. The remaining one-eighth interest is held by the land owner. The Simms Oil Company will have active charge of the drilling and operation of the properties, and present plans are to drill 21 tests, with rig timbers already on the ground for most of these locations. Marland had started developing several of its leases when the above deal was closed, and will be reimbursed for all expense incurred, but otherwise no cash consideration is involved. Marland is to pay 15 cents per barrel for lifting charges on its three-eighths interest in the production when the wells decline below 100 barrels daily.

Since Marland is a newcomer in Texas, with a comparatively small production department and no equipment on hand, the company is not in a position to carry out such an intensive drilling campaign as would be required at Wortham, and it was for this reason that its acreage was turned over to Simms for development. However, Marland is building up its production department in Texas, and is drilling wildcat and semi-wildcat tests in the Gulf Coast region, Kaufman county, Panhandle district, and operating jointly with Murchison & Fain in Archer county.

The Simms Oil Company was selected to develop Marland's acreage at

Wortham because of having a veteran organization, ample water supply and equipment, and every means to get the most of the flush production as long as it lasts. Marland reserves the right to take its three-eighths interest in the production, and is building a tank car loading rack to ship the oil as produced to its tidewater terminals at Texas City, while Simms Oil Company has available tankage at Mexia, with five 55,000-barrel tanks ordered and will also ship from the field in tank cars.

The Humble Pipe Line Company is planning an extensive gathering and transportation system similar to that operated during the peak production days of the Corsicana-Powell field, and will probably have an 8-inch gathering system over the Wortham field. A pump station site has been picked about one mile south and east of Wortham on the A. J. Berry 20-acre tract. Humble is laying a new 8-inch line to Wortham from its Sanders pump station in the Mexia field, a distance of more than 5 miles, and also has 8- and 6-inch lines passing nearby the Wortham field in transporting Corsicana-Powell crude south via Mexia to the Coast. This 6-inch line has been converted on the south end into a water carrier in bringing water from the Mexia field to Humble's leases at Wortham. Electric motors are to replace the five boilers for power in operating this water station, according to present plans. Humble has been promised oil produced by J. K. Hughes, Rio Bravo Oil Company and additional connections from producers now being served by Humble in the Mexia and Corsicana-Powell fields.

The Texas Company failed to hold any protection acreage at Wortham, and is making a bid for a large share of the flush production expected by offering water to operators for drilling purposes. The Texas Pipe Line Company is using one of its 6-inch lines to pump water from the Navasota river. This company also has ordered six miles of 8-inch pipe to build another oil line from Mexia to Wortham, and has been promised connections from Godley Oil Company, Southern Exploration Company, Shaffer Oil & Refining Company, Barkley & Meadows and others.

The Pure Oil Pipe Line Company is building a 6-inch extension line from its 8-inch trunk line connecting Corsicana-Powell and Teague station. Pure is also preparing to pipe water to Wortham from tankage already erected on the Berthelson lease in the Mexia field, and a line made of 5 3/16-inch casing was scheduled for completion this week to carry water.

Gulf Pipe Line Company is building into Wortham with a 6-inch line from its tank farm, located four miles east of Wortham, and is reported to have in excess of one-half million barrels of empty storage available at this farm. Gulf's outlet from the district consists of a 6-inch trunk line to Lufkin, with a capacity of about 10,000 barrels daily. Sinclair Pipe Line Company has an 8-inch trunk line near Wortham, and is building into the field to obtain prospective crude being contracted for in advance of the completion of wells. Prairie is building a temporary pump station on the Simmons lease, located near the big well, and is running all the oil produced by the Boyd Oil Company's two wells.

Leases on some of the Wortham townsite lots have changed hands many times, and speculators have bid up prices beyond all reason, with a peak price of $10,000 per acre having been paid on one occasion. The Boyd Oil Company and Atlantic Oil Producing Company, who hold a one-quarter interest each in the R. R. Penn et al McCorkle lease on the east edge of Wortham, bought more protection acreage last week further east of the Penn location, and are credited with having paid between five and six thousand dollars per acre to obtain this additional protection.

Extensions in Archer County Assure Continued Heavy Drilling Campaign

Wichita Falls, Texas, Dec. 9.—Extensions made lately to the Harmel field in the southwest part of Archer County assure a continued heavy drilling campaign in the county, although some of the recently discovered pools have been defined for production and drilling is shifting to inside locations. The trend of production in the Harmel fields to the west and northwest, and undeveloped leases are in big demand in this general direction, with most of the acreage leased solid to the Baylor County line. The Harmel field is proving to be a series of small pools, with a short interval of nonproductive area in between, as was the case with the nearby Swastika field, and the sand pay has a thickness ranging from five to 20 feet at an average depth of 1300 feet.

The recent completion of Harris and others' semi-wildcat test on the Stampfli-Hill land, located in lower part of section 2408 and more than one mile west of the original Harmel pool, with an initial production of 210 barrels at 1343-58 feet has greatly stimulated interest in this section of Archer County. Gulf Production Company's E. S. Monahan 1, located near center east line section 1599 and between the above producer and the field, was showing for a good sized pumper early this week after drilling oil sand at 1288½-97 feet. Williott-Murphy et al's T. L. Griffin 1, located in northwest quarter of section 1600, also extended the Harmel field a few locations in the direction of the Sampfli-Hill producer after pumping 165 barrels initial production from sand at 1286-1305 feet. This well drilled through the sand into shale. Humble's J. A. Wood 1, located on the northwest extension of the Harmel field, flowed 225 barrels during the first 20 hours after bailing sand at 1290-1304 feet, and widened the productive area one location to the east in section 2406.

Hobbs-Chenault et al's C. Lane 1, section 46, Meade Pasture Land, and three miles northeast of Megargel, revived interest in a new section of Archer County early this week after drilling sand at 1443-47 feet. This test has been bailed to bottom, and filled up 800 feet with oil after standing overnight with no water showing. The nearest production is a small pumper completed some months ago by the Sun Oil Company on the Bell County School Land survey. Archer County's production slumped below the 40,000 barrel level during the past week, after having produced in excess of 40,000 barrels daily for two weeks in succession. The county is credited with 128 active drilling tests, rigs and locations, while 148 completions were reported during the past week.

The South Vernon field, Wilbarger County, has not fulfilled expectations of the four companies that built pipe lines to the field when a few flowing wells were completed from the 2000-foot sand and sandy-lime pay, and offers meager chances of extending over a wider area than already proven for production. The completion of a dry hole recently by Prince Brothers et al's Zipperle 1, section 84, after drilling into salt water at 2069 feet, and the showing of salt water in Bridwell-Heydrick et al's Stephen 3, after bailing sandy-lime at 2133 feet partially define the field to the east, while C. F. Kolp's Waggoner 1, section 99, is probably near the west end of the field since it is showing some water with 200 barrels of oil at 2047 feet. McCamey-Sherrin-Lucey et al's Richardson 1, has failed to produce oil after drilling to 2060 feet where the liner was lost in the hole.

A new producing horizon was uncovered on the east edge of the South Vernon field early this week when Bridwell-Heydrick et al's Stephens 5, located a short distance east of the same interests' failure on No. 3 test, swabbed 150 barrels of oil in eight hours from sand at 1824-34 feet. Other tests in the field logged this sand formation, but this is the first oil producer obtained, thereby indicating that it is another example of the freakish condi-

Wortham's Potentialities Result in Large Steel Tank Building Program

Fort Worth, Texas, Dec. 8.—Steel storage requirements of various oil centers in Texas has recently resulted in orders being placed for more than five million barrels of tankage, and indications are that this quantity will be swelled to a larger figure before the first of the year if the new Wortham field comes through with a big flush production.

Although the Wortham area is favored with seven major pipe lines, the flush production is expected to exceed the combined capacity of these lines early in January, owing to the fact that daily runs must be handled from other nearby fields through the same lines. The pipe line companies are preparing themselves to take Wortham crude in excess of their present line capacity by building new tanks at Wortham, or boosting their carrying facilities by adding loops to their trunk lines, while some of the lease owners in the field are buying tankage to store a portion of their oil as produced to hold for higher crude prices.

The Boyd Oil Company, which brought in the first two producers on the Wortham structure, has taken the initiative in building tankage to store a portion of its production in the field for higher crude prices, and materials for twenty 55,000 barrel tanks have begun arriving from the steel mills, while ten additional tanks of the same capacity will be erected if production justifies. The Atlantic Oil Producing Company has ordered five 80,000 barrel tanks to be added to its Griffin tank farm, which was built near Wortham during the flush period of the Mexia field, and the Simms Oil Company has placed orders for five 55's, with considerable more tankage planned since contract was made to drill all the acreage held in the field by the Marland Oil Company of Texas on an overriding royalty basis.

The Prairie Oil and Gas Company is reported to have let contracts for the immediate erection of ten 55's and five 80's near Wortham to take care of crude purchases in excess of its pipe line facilities. The Pure Oil Pipe Line Company is reported to be contemplating the erection of considerable new tankage, in addition to the looping of its trunk line to the Gulf Coast and operation of a tank car loading rack, while the Humble Company will do likewise.

The Sun Oil Company has ordered four 55's to be erected on the S. T. Bounds land, located on the north bank of the Tehuacana Creek and on the lower end of the Wortham field. This new tank farm will adjoin a tank farm maintained by the Sun during the Mexia development, and it was only recently that the Sun Company disposed of its old tankage to the Simms Oil Company. E. L. Smith and others are reported to have ordered four 55's to be erected on the west side of Wortham to store a portion of their production for higher prices.

Tanks in West Texas

The Big Lake field, West Texas, is commanding a large share of the new tankage underway in Texas, and will probably experience a continuous tank building program for a year or more, with the Marland Oil Company of Texas doing most of the work in order to fulfill its crude contract with the two companies holding all the present producing leases in the field. Marland has contracted to start taking this month a maximum of 10,000 barrels daily for one year from the Big Lake Oil Company and the Texon Oil and Land Company, and at the end of the first year Marland's purchases are to be increased to a maximum of 20,000 barrels daily for the life of the leases. A pipe line outlet to the Gulf Coast is contemplated by Marland for construction next year, while in the meantime tank cars are being pressed into service to transport some of the purchased crude to the Gulf Coast.

Marland has started work on four 80,000 barrel tanks in the Big Lake field, and has placed orders for six more of the same capacity, while eight 80's are being erected at Marland's tidewater terminals at Texas City to handle Big Lake crude shipped from the field in tank cars. This new tankage represents a combined capacity of 1,440,000 barrels, and is just the preliminary tank building program Marland has planned to carry out its Big Lake crude contract. The tops and bottoms of all these tanks are to be welded. In the Big Lake field, the Big Lake Oil Company has just completed six 55,000 barrel tanks, and work is underway on four more of the same size, while the Texon Company has one 55,000 barrel tank completed and materials purchased for two more.

The South Vernon field, Wilbarger County, added three 55's before ample pipe line facilities were completed last month. Two of these tanks were erected by Humble, while the Sinclair Crude Oil Purchasing Company built the third. This field now has two four-inch, one six-inch and a combination four and six-inch line with less than 5000 barrels of production to offer, and indications are that the producing area has been defined to a comparatively small area with a failure offsetting one of the best producers completed from the 2000-foot sandy-lime pay.

The American Refining Company is adding two 55's to its tank farm, located near Wichita Falls, while the Texhoma Oil and Refining Company recently built a 55,000 barrel tank on the lower end of its pipe line system in Archer County. The Plains Pipe Line Company has added a 55,000 barrel tank to its storage facilities in the Panhandle district. The Pure Oil Pipe Line Company recently completed a 55,000 barrel tank in the Richland field to take care of surplus crude purchases and common carrier runs, while two tanks of the same size were also erected in the Richland field by the Boyd Oil Company, but the latter two tanks have since been sold to the Sun Oil Company.

---

tion of the producing horizons in the field. Wells & Guiberson's Waggoner 1, which has been drilled deeper on a number of occasions with good results, has developed water trouble, and is being plugged back from 2057 to 2043 feet, but is continuing to flow 670 barrels daily. Winnipeg Oil Company's Bond 1 is also showing some water along with flow of 450 barrels of oil through tubing at 2056 feet. The South Vernon Oil Company, discoverers of the field, apparently hold the cream of the producing area in the field, and are completing two tests this week with six more underway.

Pender Production Company's Hart 1, section 3384, has added a new stretch of producing area to the South Breckenridge field in Stephens County, with an initial flow of 100 barrels after shot of 15 quarts in regular lime pay at 3260-3290 feet. Kleinfelder et al's J. H. Grimes 1, located about seven miles south and west of Breckenridge, has shut down with a flow of ten million cubic feet of gas and spraying oil from lime at 3228 feet. The Hoffer Oil Corporation's semi-wildcat test on the Webb land, M. T. Malone survey, located in northwest part of Stephens County, has been abandoned at 3785 feet after getting a hole full of salt water. Parsons et al's T. L. Scott 1, located in T. A. Howell survey, in east part of Eastland County, is making five million gas after drilling five feet of sand to 3110 feet, and establishes a second gas producer in this wildcat section of the county.

Boyd to Change Name

Mexia, Texas, Dec. 10.—Following a meeting of stockholders in January, the name of the Boyd Oil Company will be changed to the Humphreys-Boyd Oil Company. The purpose of the change is to link the name of Colonel A. E. Humphreys, accredited discoverer of the Mexia, Currie and Wortham oil fields, with activities of the company, of which he is president.

Phoenix Plant Resumes

Pittsburgh, Pa., Dec. 6.—The Phoenix Iron Works Company plant at Meadville, Pa., which has been shut down for sime time, has resumed operations. The company supplies tanks and other equipment to the oil industry.

Weather Causes Decline In Eastern Operations

Pittsburgh, Pa., Dec. 8.—Operations show a decline for the week in review due to the winter weather, although there is but a slight change in the new work that is under way in all fields, while the completions were less. There were a total of 185 wells finished, 112 oil wells with a production of 2145 barrels; 31 dry holes and 42 gas wells, with a volume of 71,000,000 cubic feet. This is a drop from the previous week of 35 completed wells, 470 barrels oil production, three dry holes, 21 less gas wells, and 35,250,000 cubic feet less gas production.

The Peoples Natural Gas Company was unfortunate enough to get a fishing job, just when it had its deep hole, the second test on the Booth-Flynn lease at Chestnut Ridge, in Westmoreland county, Pa., to a total depth of 7430 feet and practically completed. In lifting the tools from the bottom, they became stuck in the hole. The well shows at its great depth for an output of less than 500,000 cubic feet of gas. This well has been drilling for close onto two years, and cost in the neighborhood of $200,000, and is really the deepest gas producing hole in the United States. Two years ago the original well on this lease was drilled to a depth of 6822 feet, where the hole became plugged.

Eastern operators are still talking an increase in crude prices and becoming more enthusiastic over the possibilities from day to day. Holding of crude in storage may be holding back any increase in price, as the pipe lines have no additional storage to put the oil and the National Transit Company will receive no runs unless for immediate delivery. This fact should bring about a sale of the crude held by the operators.

Above average producers were brought in during the week in New York, Pennsylvania, West Virginia, Kentucky, Southeastern and Central Ohio, while those of Northwestern Ohio, Indiana and Illinois were rather light.

Advantages You Gain When You Order

MALONEY TANKS

1. Crimped seam and joint construction. This patented feature does away with laborious caulking.
2. Durability. MALONEYS are built of rust-resisting Keystone Copper Steel.
3. Tightness. Every seam and joint is not only crimped, but is sealed with our special gasketing and Gaso cement.
4. Strength. Seams are backed with steel channels. Decks are supported by sturdy angle irons radiating from a center ring supported by a steel ladder.
5. Low Freight Rates. Tanks are shipped "knocked down", fourth class in less-than-carload shipments, and fifth class in carloads of 36,000 lbs. or more.
6. Quick erection, by unskilled labor.

"Alone in Quality"

MALONEY TANK MFG. CO.

Office and Plant: Tulsa, Okla.

12 to 3000 Bbls. Capacity

KEYSTONE COPPER STEEL

Prompt, Dependable Export Service

MALONEY

Well South of Gorman May Prove Important

Russell, Kansas, Dec. 8.—Producers & Refiners Corporation's No. 1 Mermis, in the southwest corner of the northwest of the northeast of section 9-14-15, two miles southeast of Gorham, found a good showing of oil at a depth of 3055 feet. It is believed a good prospect for the opening of a new western Kansas oil pool.

The well has been bailing 25 barrels daily from two feet in the sand. The well is 11 miles south of the Oswald pool, and about eight miles west of Russell. The formation is similar to the Oswald formation. Oil operators regard it as the most important development in western Kansas since the first discoverey of Russell County a year ago.

The Valerius Oil Company's discovery well of the Russell County field in section 8-12-15w, celebrated its first anniversary the first of this month. Up to date it has produced a total of 70,000 barrels. This well caused close to 50 wildcats to be started in western Kansas, of which only one, the White Eagle Oil & Refining Company's No. 1 Dodge, three miles north of the pool, came in a producer of commercial value. Sixteen have been definitely plugged after testing out proper depths, four are below the Valerius depth, and a large part were abandoned before they were drilled that deep.

The Dodge well in section 29-11-15, has been placed on the pump and is reported making a little over 100 barrels a day. It was first thought the well would not be good for over three barrels a day.

The seven producing wells of the Oswald pool are doing less than 1000 barrels a day now. Little or no leasing is taking place at present in western Kansas.

The deep sand undoubtedly carries oil in various areas as too many showings have been found to leave the possibilities of western Kansas in doubt. The impression persists that deeper drilling will eventually bring the desired results. Sometime someone will drill below the 3000 foot Oswald level and perhaps find a true sand of sufficient thickness to carry larger quantities of oil.

Believe Failure Marks Northeastern Limits of Cotton Valley Production

Shreveport, La., Dec. 8.—The northeastern boundary of the Cotton Valley field was defined last week by the failure of the Woodley Petroleum Company's test in its No. 1 W. J. Hodges, located in the southwest corner of the northwest quarter of the southwest quarter of section 18-21-9, which tested salt water in five feet of sand at a total depth of 2538 feet. This well is located about five-eighths of a mile from the nearest oil well, which is located in the northeast quarter of the northeast quarter of section 24-21-10. The productive area is now fairly well defined on the north, northeast and northwest. Careful contouring enables one to predict that the southwestern boundary is being approached by current drilling, but there is as yet not enough data available to enable one to do more than suggest probable southern and southwestern limits of the field. The Alabama Petroleum Company is drilling below 1800 feet in a well in the northeast quarter of section 29-21-10, which is expected to go far toward indicating the probable southwestern limit of the field.

The Humble Oil and Refining Company is setting liner today to test seven feet of sand at a total depth of 2521 feet in its No. 5 on the Bodcau "B" tract, which offsets the Woodley failure on the west. The Humble also is preparing to test 24 feet of sand at 2522 feet in its Bodcau B-4, in the northwest quarter of the southeast quarter of section 24-21-10, likewise located in the eastern portion of the field. The Alabama Petroleum Company's Pardee B-1 offsetting on the east, has failed to flow through the casing, and arrangements are being made to set a string of tubing on a packer.

The two deep tests in sections 28 and 29 of township 21-10 are attracting more attention than anything now going on in the Cotton Valley district. S. S. Raymond and Jim Evans have set a string of 4½-inch casing at 3255 feet in their No. 1 Coyle, in section 28, and it is probable that their proposed test of the Woodbine sand may be completed this week. The Palmer Corporation has resumed drilling and is now down to about 3400 feet in its Miller well, in section 29, which was abandoned several months ago at a depth of 3378 feet.

The three oil wells drilled near the center of section 28-21-10, Southwest extension, are holding up very well. All of them went dead soon after the completion of the Louisiana's Nelson gasser, offsetting, which was reported in our issue of last week as having come in as a dry gasser. However, all have since resumed flowing. The Nelson well, first a dry gasser, is now making a slight spray of oil, and indications are that it may ultimately come in as an oil well, after about the same fashion as did the Cotton Valley discovery well. The Humble's offset is flowing around 1500 barrels per day. Moffett & Murphy's Coyle well is swabbing about 1000 barrels per day, and the Louisiana Oil Refining Corporation's Gray extension, also in the same group of wells, is flowing around 575 barrels of oil per day.

Field in Red

That the Cotton Valley structure is productive of oil became known to the general public about one year ago. Since that time, the field has produced a total of approximately 1¼ million barrels of oil. However, it must be remembered that the operation of the discovery well was not begun until the latter part of January, 1924, and that the first pipe line runs were made in March, following. Developments at Cotton Valley have, on the whole, been of disappointing nature as regards flush production. It is true that several big wells have been brought in there, but the average initial production of all wells in the field has been lowered by the large percentage of gas wells which the structure has afforded. A number of good leases may be found which undoubtedly have paid back more money than was invested in them, but, as a general proposition, the entire field is still "in the red," when production returns are balanced against the cost of acreage and development.

The pipe line runs from the Cotton Valley district reached a peak of 270,000 barrels during November.

The Louisiana Oil Refining Corporation has hauled out a derrick pattern to a location in the northeast corner of the southeast quarter of the southwest quarter of section 21-23-9, Shongaloo district, Webster Parish. This location is about one mile northeast from the famous Sinclair Mayfield gasser in section 20, which sprayed oil in considerable quantity, and is about four miles southwest from the western boundary of the Haynesville field. This undoubtedly will be regarded as a very important wildcat test, as it is located on a structure known to be productive of gas, and which has yielded several very good showings of oil.

Wildcats

Woodley & Collins are coring in a dry sand at a total depth of 2832 feet in their Fortson wildcat, in section 28-21-5, of the Lisbon district, in Claiborne Parish. The Roxana Petroleum Corporation has begun drilling and set surface casing in its Bryan wildcat, in section 30-17-6, of Bienville Parish. R. O. Roy, of Shreveport, discoverer of the Bellevue shallow field, in Bossier Parish, has begun drilling in a wildcat test located in section 27-10-10, of Natchitoches Parish. Senator L. V. Ulrey and others of De Soto Parish, have built a derrick on the Robinson-Patterson land in section 22-11-12, and have made a location on the Deas land, in section 23-11-12, both in De Soto Parish. A well drilled by these parties several months ago in this same locality is said to have yielded encouraging showings of oil.

Irma, Arkansas, Crude Moving in Tank Cars

Reeder, Ark., Dec. 8.—A total of 22,315 barrels of crude oil was shipped out of the Irma field in tank cars during the month of November. Most of this oil was consigned to the Standard Oil Company, at Baton Rouge, La. A considerable portion of it was shipped to the Humble Oil and Refining Company at Houston, Texas, and a few cars of it were shipped to the Red River Refining Company, at Chicago, Illinois.

The Irma field, which produces a very low gravity crude said to possess many virtues to recommend it for the manufacture of lubricating oils, is now yielding an average production of approximately 1365 barrels of oil per day. Wells now being cleaned out would increase this total by at least 100 barrels per day. The following tabulation represents the approximate daily average production of the companies operating there:

Keystone Oil Company	490
Smitherman & McDonald	450
Autrey Oil Company	415
Dixie Oil Company	10
Total	1365

Dixie Oil Company has two wells off, cleaning out.

There are twenty-one producing wells in the field.

There is said to be almost two hundred thousand barrels of crude on hand in the field, a part of which represents an accumulation of oil which occurred prior to the completion of the railroad into the field, which afforded a market outlet.

One of the contracts under which Irma crude is being shipped to refineries is said to be based on a premium of five cents per barrel above its posting for "A" grade Gulf Coastal crude, f.o.b. refinery.

F. G. Gissler, manager of the Conley Tank Car Company for the Dallas district, and W. J. Curley, secretary and treasurer of the company, were in Houston on business during the past week.

C. W. Horstemeier, special representative of Sinclair Crude Oil Purchasing Company, with headquarters in Denver, is spending two weeks in Los Angeles and other California points.

Dressing and Tempering Drilling Bits

(Continued from page 26.)

there is sufficient heat in it to dry the water off the outside in a couple of seconds after the bit has been removed from the quenching bath. The steel will then be at or just under the boiling point of water.

Variables Numerous

The variables which have already been mentioned make the work of determining the efficacy of heat treatment control a difficult one. The obtaining of anything like a true answer to the question requires the collection of enough data on bit performance to nullify the effect of these variables. It is undoubtedly a fact that more careful attention to the details of heating and quenching bits will lead to more rapid drilling—the question is: "How much more?" In order to answer this question it is necessary to know what bits are doing following common oil field bit dressing practice and then to determine what controlled methods of treating will do to improve this performance.

Irma-Wainwright Well Flowing Oil Steadily

Calgary, Alta., Dec. 8.—Except for the small flowing production from British Petroleums, Ltd. No. 4, the Irma-Wainwright field in east central Alberta is still without proven oil production. No definite figures have been given as to the actual production of No. 4, but it is flowing a little oil right along, and has filled all the available tankage.

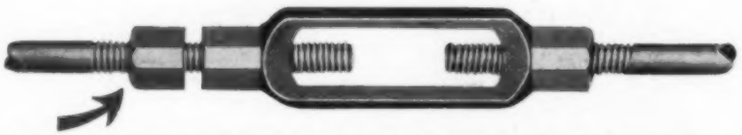
Capacity tests of the other British Petroleums wells are still incomplete. British Petroleums No. 3, section 29-45-6w4, may have to be carried deeper, and a core drill is being secured for this purpose. After the failure of the first sand encountered to develop production, the test was carried down into a second sand, and the well cemented before being drilled in. The test is reported to have shown a lighter oil than the other wells, but considerable salt water came in. A swab is being secured and if the well fails as a producer at this horizon it will be carried down. British Petroleums No. 2 has the pump in, but is clogged with sand, and some difficulty is being experienced getting it into production. No. 5 is rigged up, but has not spudded in yet, and may not start work for some time, pending developments at the other wells.

The Maple Leaf Oil and Gas Company operations are apparently at a complete standstill; all the men have been withdrawn except a watchman. No. 1 gasser is shut in, and No. 2 well is rigged up but has not started drilling. Wainwright Oil Producers Syndicate, section 36-44-7w4, has put in a new bull wheel and resumed drilling.

West of Edmonton the Imperial Oil, Ltd., Coalspur No. 2, in the Brazeau section of the foothill belt, is drilling steadily. The plant has been housed in, and work will be continued through the winter.

In Ontario, the Glenwood Natural Gas Company and the Union Natural Gas Company each have an outfit at work in the southern part of the old Tilbury-Romney gas field, testing the Tilbury sand for additional production. Further east, the Dominion Natural Gas Company test No. 2 between Maybee's Corners and Courtland, has run into a crooked hole around 1000 feet. No. 3 is located, but has not rigged up yet. In Norfolk County a test drilled by the Dominion between Jarvis and Simcoe got a small gas production.

In Onondaga township, Brant County, the Canadian Dutch Oil Company is testing the Onondaga limestone around 800 feet. The first well got a small production, around three barrels a day or a little better, and a second is being drilled. A similar shallow area is being developed by the Peace River Development Company near Iona, in Elgin County, about 5 miles from the old Sutton oil pool. The production at Iona is around 330 feet. The first well started at about 35 barrels a day, apparently from a mud vein in the rock, and quit pumping after 25 hours. Two later wells are small pumpers, good for perhaps five barrels a day each.



An APPRECIATED Feature of National Turnbuckle Derricks

This special lock-nut, on each turnbuckle, insures the tightness, strength, and safety of the derrick.

No more troublesome, tedious threading of wires through turnbuckles to prevent turning.

This is just one of many details which make the National Turnbuckle Derrick the most highly perfected portable derrick on the market. It possesses many unique advantages. Ask for our new descriptive booklet.

Made in 80-ft., 96-ft., and 116-ft. heights, for either cable tool or rotary drilling.

National Turnbuckle Derrick Co.

413 Wright Bldg., Tulsa

AFFILIATED COMPANIES:

Osage Rig, Reel and Lumber Association Yards at Burbank, Apperson, Shidler, Wynona, Lyman, Wetumka, and Davenport, Okla.

Mahan, McCarty & Besse, Contract Rig Builders

A TWIST OF THE WRIST ACCOMPLISHES THIS

IF THE PLUG STICKS-

A SLIGHT TURN OF THE NUT, TO THE LEFT, ACTUALLY LIFTS THE PLUG FROM ITS SEAT.

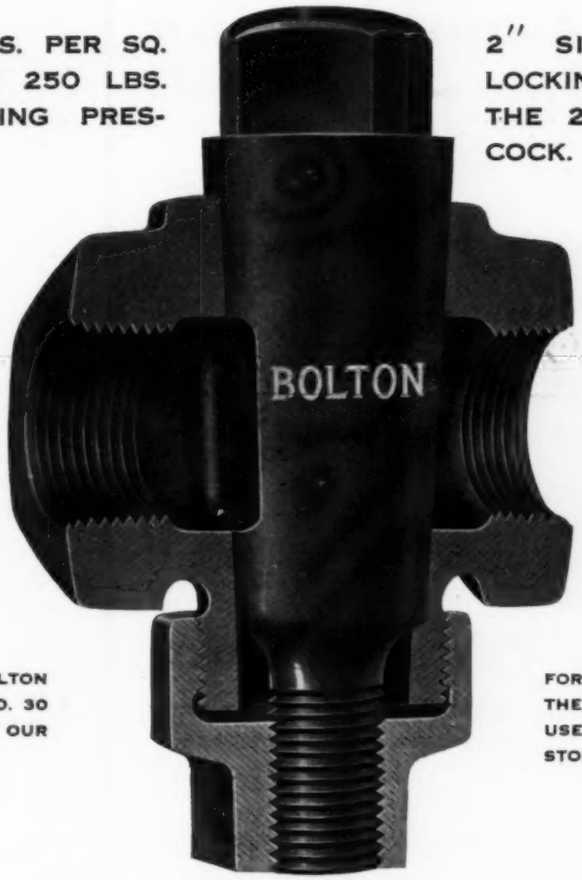
IF THE COCK LEAKS-

TURNING THE NUT TO THE RIGHT DRAWS THE PLUG DOWN INTO THE BODY.

TESTED AT 700 LBS. PER SQ. IN.; SUITABLE FOR 250 LBS. PER SQ. IN. WORKING PRESSURE.

2″ SIZE NOW MADE WITH LOCKING DEVICE; KNOWN AS THE 2″ BOLTON LOCK STOP COCK.

"OILWELL" ESTD. 1862 C O TRADE MARK. (REGISTERED)



"OILWELL" ESTD. 1862 C O TRADE MARK. (REGISTERED)

WRITE FOR "OILWELL" BOLTON IRON STOP COCK BULLETIN NO. 30 —OR GET A COPY AT ANY OF OUR 100 BRANCHES.

FOR SAFETY, CONTINUOUS SERVICE, AND THE ELIMINATION OF REPLACEMENTS, USE THE "OILWELL" BOLTON IRON STOP COCK.

THE "OILWELL" BOLTON IRON STOP COCK

OIL WELL SUPPLY CO.

OLDEST AND LARGEST MANUFACTURERS OF OIL FIELD EQUIPMENT

PITTSBURGH

LONDON SAN FRANCISCO NEW YORK LOS ANGELES TAMPICO

Bid for Wortham Oil Holds Market Interest

(Continued from page 22.)

effect will precede any advance in Mid-Continent or Middle Western grades.

California

The market situation in California has not been helped by the new Wortham field in Texas. The producers are wondering what effect the new field will have on U. S. markets. It is thought the new field will furnish sufficient high gravity production to stop the decline in the United States as a whole. This oil will be thrown upon the market. There will be a less demand for California crude.

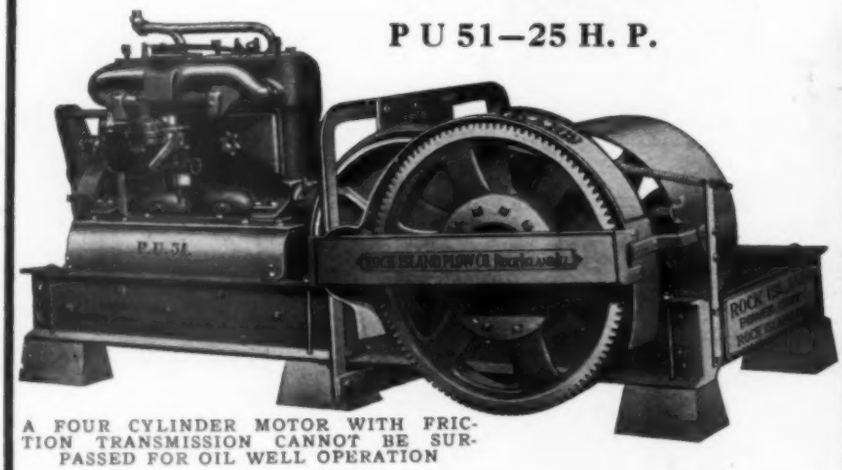
It is already known that the Standard of California will not ship much more California crude to the Standard of New Jersey. This contract expires shortly, and reports say it will not be renewed. This contract has been responsible for the movement of about 40,000 barrels of crude daily out of Los Angeles Harbor. It is generally reported that the Associated Oil Company will cancel soon after the first of the year two small contracts calling for the shipment of 10,000 barrels from Los Angeles Harbor to East Coast points. This will reduce the movement in January around 50,000 barrels a day, and then the California storage can be expected to continue to grow, even if production declines at the ratio of the past two months.

California companies are figuring that they will need their crude late in 1925 and in 1926. They do not expect production to hold up to present figures. They expect to be in position to take care of West Coast and Pacific foreign demands the next two years. The gasoline storage situation is not looking any too good. Lots of gasoline must be and will be held in storage. At this time there is more than 10,000,000 barrels of gasoline in storage at all points on the West Coast. There is more than 6,000,000 barrels of naphtha distillates in storage and added to this is a total storage of more than 12,000,000 barrels of light crude. Reduced to gallons and figuring approximate gasoline content of the light crude and naphtha distillates, there is a potential storage of gasoline on the West Coast of 1,212,500,000 gallons. This takes into account the gasoline content of the naphtha distillate and light crude. That's some stock of gasoline to take care of and finally place in the market. And the California refineries are turning out gasoline at the rate of about 100,000,000 gallons a month. California will have plenty of gasoline for some time to come.

But in spite of these conditions, the California market is fairly steady. The market on the West Coast does not go down and come back as the market does in the Mid-Continent. The large stocks are mostly held by large companies financially able to carry the load without trouble. The only break is in the Los Angeles Basin country where small refineries cut the price to dump their overloaded storage tanks. But even this situation is no worse, and if anything there is a slight improvement recently.

An Ideal Combination for Pumping

P U 51—25 H. P.



A FOUR CYLINDER MOTOR WITH FRICTION TRANSMISSION CANNOT BE SURPASSED FOR OIL WELL OPERATION

Rock Island Pumping Unit

The sturdy four cylinder motor operates on natural gas or gasoline and can be started easily by one man in all kinds of weather. It requires less fuel and lubricating oil and has a range of speed from 500 to 1000 R.P.M.

The Friction Transmission eliminates reverse gears and clutch mechanism, with fewer parts to wear, repair or worry about. It has seven speeds forward and seven reverse for any given motor speed. It eliminates any possibility of jerking the load thus greatly reducing danger of parting rods or breaking the cable.

Complete control from well platform. Built for the job. Sold on performance.

SEND FOR CATALOG

Manufactured by

Rock Island Plow Co., Rock Island, Ill.

C. F. CAMP AGENCY, Distributors

P. O. Box 289 TULSA, OKLAHOMA 14 E. 7th St.

United Iron Opens Western Office.

Kansas City, Mo., Dec. 6.—The United Iron Works Inc., of Kansas City has opened a branch office at 439 East Third street in Los Angeles, California, to better serve the West Coast trade. J. L. McGinnes, district sales manager, will be in charge of the Los Angeles office which will handle sales for all lines manufactured by United Iron Works.

Big Order For Derricks

Tulsa, Okla., Dec. 6.—The Tulsa Rig Reel & Manufacturing Company announces it has received orders for 100 drilling derricks from the Midwest Refining Company for use in the Salt Creek field in Wyoming. The order calls for the American "wooden-steel derrick" manufactured by the Tulsa Rig Reel.

P. & R. Moves to Parco

Casper, Wyo., Dec. 8.—Producers and Refiners Corporation has completed moving its Wyoming production and pipe line offices from Casper to Parco, where the P. & R. offices are being consolidated. R. E. Wertz, vice president and general superintendent of the P. & R. Wyoming division, will be in charge of the Parco offices.

Completions for Past Week in U. S. Fields

Summarized Review of Field Results

State—	Completions This Week	Completions Last Week	Producers This Week	Producers Last Week	Gas Wells This Week	Gas Wells Last Week	Failures This Week	Failures Last Week	Initial Production This Week	Initial Production Last Week
Oklahoma	73	72	41	41	5	5	27	26	34,012	13,086
Kansas	19	6	7	3	3	2	9	1	605	165
Texas	93	76	46	48	8	9	39	19	9,976	17,272
Arkansas	10	20	5	13	..	1	5	6	480	655
Louisiana	12	15	6	3	2	7	4	5	885	1,875
Eastern States	184	210	110	114	43	63	31	33	2,137	2,605
Mountain States	3	9	2	5	..	..	1	4	90	1,067
California	19	18	19	18	..	..	..	..	7,620	8,800
Totals	413	426	236	245	61	87	116	94	55,805	45,525

Note—Following is the explanation of abbreviations, signs, etc., used in completion and wildcat reports: *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million cubic feet of gas; abn—abandoned; bbls—barrels; b. s.—basic sediment; cas—casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in—inches; lcn—location; m—milling; N. S. E. W.—North, South, East, West; r—reaming; sd—shut down; sdtr—sidetracking; sp—spudded; sr—straight reaming; std—standardizing; sw—salt water; td—total depth; ur—under reaming; wo—workover; wosr—waiting on standard rig.

California

Company, Well and Location	Initial Production Bbls.	Depth
Huntington Beach—		
Standard's B-24 (wo)	140	3534
Associated's Miley Keck 33 (wo)	75	3273
Miley Keck 30 (wo)	110	3789
Torrance—		
Standard's Joughin 14	110	3802
Ellington 1	80	4695
Star Pet. Co.'s B. & R. 1	15	3708
Standard's Joughin 18	335	3840
C. C. M. Oil Co.'s Del Amo 26	290	3660
Torrance 78	225	3701
Petroleum Securities' Kleinmeyer 7	80	3810
Kleinmeyer 9	30	3800
Long Beach—		
A. T. Jergins Trust's No. 13	180	4800
Bay City O. & L. Co.'s Delivery 1	600	4304
Mutual Oil Assn's No. 1	175	4850
Shell Co.'s Patton-Wilson 4	850	5000
Dominguez—		
Associated's DeFrancis 4	2500	4300
Union's Callender 4	225	4758
Elk Hills—		
Pan American's No. 3, sec. 34-30-24	1500	2996
Midway—		
North American's No. 12, sec. 30-31-24	100	3206

Texas

ARCHER COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
ABC Oil Co. W. P. Ferguson 3	25	1762
Geo. S. Anderson et al E. M. Hughes 2	*	625
Barkley & Meadows et al L. F. Wilson 5	*	1640
Roy I. Carter et al J. H. Carter 3-C	*	1612
J. H. Carter 15-E	†	1400
Cullum & Perkins (was Carey et al) Bridwell 4	*	1160
Consolidated & Panhandle Oil Co. W. J. Ragle 7-B	30	1097
W. J. Ragle 2-E	300	1096
Eagle Creek Oil Co. Beardson Estate 1	*	1075
Franklin et al W. F. Parrish 13	100	1553
Grisham & Parks et al C. L. Davis 4	220	1091
Gulf Prod. Co. T. L. Griffin 7	150	1292
T. L. Griffin 10	140	1286
T. L. Griffin 14	140	1292
A. P. Nichols 6	100	1559
Perkins et al 1	*	1799
Oil Investment Co. 3	100	1106
P. Siegel, Sr. 5	*	1594
P. F. Gwynn et al M. E. Rogers 2	200	1291
Hardesty-Texhoma et al E. A. Hausler 1	*	1201
Harris et al Vic Stampfli 1	210	1358
Harris & LaNeve et al Martin 1	*	1500
Humble Oil & Ref. Co. E. A. Hausler 1	*	1144
W. J. Ragle 2	30	1102
J. A. Wood 1	250	1304
Humphries et al J. H. White 11	200	1600
J. Lane et al J. H. White 4	50	1615
C. B. Long et al K. & K. 1	*	1942
Maer & Staniforth et al Bridwell 4	*	1200
Bridwell 5	110	1135
Magnolia Pet. Co. W. F. Parrish 8	100	1597
J. H. Robberson 1	*	2309
McJunkin et al Falls Co. School Land 1	*	1540
Murchison-Fain & Marland Oil Co. H. Harmel 2-A	300	1295
H. Harmel 2-C	210	1280
H. Harmel 3-C	145	1286
H. Harmel 4-C	210	1276
T. L. Griffin 3	165	1296
T. L. Griffin 5	*	1332
Oil Investment Co. Fee 2	145	1108
Petroleum Producers Co. Bridwell 2	410	1126
Ray-Massey et al E. A. Hausler 3	250	1129
E. A. Hausler 5	300	1133
Robertson et al J. H. White 5	235	1599
Saunders-Taylor Oil Co. J. L. Logan 3	*	1298
Sun Oil Co. Green 3	230	1081
Texhoma Oil & Ref. Co. E. A. Hausler 8	*	1201
Underwood Drilling Co. M. E. Rogers 2	60	1297

BURKBURNETT

Company, Well and Location	Initial Production Bbls.	Depth
Magnolia Pet. Co. Hugh Reilly 111	60	814

ELECTRA

Company, Well and Location	Initial Production Bbls.	Depth
J. R. Brewer et al Henson 1, dd	*	2140
Drillers Dev. Co. Douglas 5	10	1051
J. L. Elliott et al Mrs. G. Jennings 2	*	2010
L. J. K. Oil Co. Henson 1	*	1740
Perkins & Cullum Burnett Estate 11	130	1595

K-M-A AND IOWA PARK

Company, Well and Location	Initial Production Bbls.	Depth
Gulf Production Co. Allen & Kemp 1	*	2008
Parker Bros. et al Parker 1	15	1812

YOUNG COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
Consolidated Oil Co. Beardson Estate 1-B	*	1222
Harvey et al S. W. C. Hill 1	*	1150
Herbert Oil Co. R. J. Johnson 1	*	2919
E. C. Reed et al R. Campbell 1	*	1304

EASTLAND-RANGER

Company, Well and Location	Initial Production Bbls.	Depth
Beeler et al Huestis 1	*	1012
Williamson et al Fox 4	15	1180

STEPHENS COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
Hoffer Oil Corp. Webb 1	*	3785
Magnolia Pet. Co. J. J. Taylor 1	*	3962
Mook-Texas Oil Co. Head 2	55	2130
Swensondale Oil Co. Echols 1	15	3280

NORTH TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
Richland District—		
McIntire et al's Richards 1	*	3600
Powell District—		
Cranfill-Reynolds et al's Irvine 1	*	1860
Garland Kent's Barry 1	6	1665
Wortham District—		
John Hoosier's Stubbs 1	*	3155

GULF COAST

Company, Well and Location	Initial Production Bbls.	Depth
Batson—		
W. B. Flynn's Donohoe 2	*	2330
Goose Creek—		
The Texas Company's 237, wo	*	2070
Sour Lake—		
The Texas Company's Fee 237,	*	2070
Blue Ridge—		
Gulf Prod. Company's Invincible Oil Co. 1	60	3930
Pierce Junction—		
Gulf Prod. Company's Taylor et al 10, wo	*	3970
Orange—		
Gulf Prod. Company's Mose Granger et al 1	2400	4490

SOUTH LOUISIANA

Company, Well and Location	Initial Production Bbls.	Depth
Vinton—		
Gulf Prod. Company of Louisiana's Star-Vincent 33	15	2320
The Texas Company's Gray 26	*	1700
Marrs-McLean's Gray 5, wo	*	3400
Edgerly—		
Green Oil Company's Moore 6, wo	400	2940
Evangeline—		
C. O. & F. Corporation's Crowley Fee 69, wo	*	1800
The Texas Company's Latreille 49, wo	*	1870

EAST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
Waskom Gas Field—		
H. L. Hunt et al's Bryson 1, E. Pollack H-R sur.	¶12	928
Southerland et al's Z. Abney 1, J. Lipscomb H-R sur.	¶20	971
Thompson et al's L. Timpson 1, J. Lipscomb H-R sur.	¶12	995
Waterman Drlg. & Dev. Co.'s Waterman Fee 2, E. Pollack H-R sur.	¶20	1916
Total, 4 wells	¶64	

Company, Well and Location	Initial Production Bbls.	Depth
Panola Gas Field—		
Jas. Askew et al's T. Douglas 1, J. Yarnall H-R sur	¶5	1020
J. C. McCormick et al's Sheehan 1, Jas. Asher H-R sur	¶12	1940
Reeling Oil & Gas Co.'s Calvin 1, B. C. Jordan H-R sur	25	1958
Total, 3 wells	¶17-25	

Louisiana

Caddo Parish, Waskom Gas Field—		
Waterman Drlg. & Dev. Co.'s Bryson 1, 18-17-16	¶15	925
Cotton Valley Field—		
Fortuna Oil Co.'s E. Warren Cox 1, 15-21-10	150	2534
Liddie Merritt 4, 14-21-10	50	2550
Humble Oil & Ref. Co.'s Bodcau Lbr. Co. B-2, 24-21-10	160	2525
Louisiana Oil Ref. Corp.'s Nelson 1, 28-21-10	¶20	2569
Ohio Oil Co.'s Bodcau Lbr. Co. 8, 15-21-10	110	2535
Total, 6 wells	¶20-470	

Arkansas

El Dorado East Field—		
Imperial Oil & Gas Co.'s Smith 3, 29-17-14	130	2230
Smackover Field, Ouachita County—		
McCorkle et al's Smith 2, 25-15-17	30	2300
Smackover Field, Union County—		
Coker Drilling Co.'s Thornton 1, 14-16-16	*	2000
Harris et al's Cook 1, 20-16-15	*	2100
Higgins Oil & Fuel Co.'s Murphy A-4, 14-16-15	80	2000
Hunt et al's Dumas 1, 23-16-16	*	1975
Rutledge Trust's Hodges 3, 6-16-16	150	2271
Wilson et al's Hayes 3, 4-16-15	220	1980
Total, 7 wells	480	

Mountain States

Salt Creek Field—		
Western States No. 16-A NW¼ section 5-39-78	50	2700
Carter Oil Co. Prior 1, section 5-39-78	40	2575
Belle Springs Field—		
Producers & Refiners No. 1	*	2020

Oklahoma

Burbank Field—		
Phillips Pet. Co. No. 4, C N L NE NW SE 11-27-5	250	3031
Carter Oil Co. No. 9, C W L SW NW NW 13-27-5	20	3042
Carter County—		
Humble O. & R. Co. Lusk 2, C NW NW NE 33-1s-3w	24	3110
Fox Pet. Co. No Name 1, C S L SW NE NW 23-2s-3w	*	2750
Magnolia Pet. Co. Cruce 19, C N½ NE NE 16-4s-2w	187	2525
Caddo County—		
Acme Dev. Co. Fugate 2, NWc SE SW 35-6-9w	*	2414
Creek County—		
Tague & Lebon No. 1, Lot 4, Block 29, C W L SW SW SE 8-16-12	*	2375
Sapulpa Fuel Co. Sloan 1-A, NWc SW SE 29-18-10	*	3376
Jomach Childers 4, SWc SE SE 9-16-9	*	3010
Acosta Oil Co. Holden 4, C W L NE NE 14-18-11	*	2368
Grady County—		
Atlantic Oil Co. McCaughtry 1, C SE NW 35-5-8w	¶	1420
Hughes County—		
Slick's Alexander 1, C NW NW NW 2-9-9	1930	3316
Grayson 2, C NE NE NE 3-9-9	1906	3319
Independent O. & G. Co. Alexander 1, C NW NE NE 2-9-9	2162	3315
Kay County—		
Comar Oil Co. Clements 4-W, NEc SE NW 34-25-1w	2860	4148
Endicott 8-W, NEc SE 34-25-1w	854	4003
Blackwell O. & G. Co. Corrigan 4-C, SEc NE 34-25-1w	2410	4096
Corrigan 3-C, NWc SE NE 34-25-1w	2710	4078
Corrigan 7-B, NEc SE NE 34-25-1w	1200	4040
Amerada Pet. Corp. Woods 37, SEc NW NE 34-25-1w	2372	4085
Lincoln County—		
Willis et al's No. 1, Lot 5, Blk. 7, C N L NW SE NW 12-14-6	*	3405
Muskogee County—		
J. D. Edmondson Bumpers 1, C NE NW NW 8-14-16	*	1815
Hazlett's Smith 3, SWc NE 27-14-15	*	1919
H. E. William's Manuel 1, C W L NW NW 17-15-16	¶	1386
Harshey & Delaney's Lee 1, SEc NW 35-15-16	¶	1638
A. Straughn's Richards 3, C W L NW NW 7-15-16	*	1480
Noble County—		
Comar Oil Co. Carmichael 6-W, NWc NE NE 3-24-1w	*	3604
Midco Pet. Co. Case 11-A, C SE NW 29-24-1w	6	2026
Okfuskee County—		
Prairie O. & G. Co. Sawyer 1, C SW NW NE 35-10-9	3147	3329
Kingwood Oil Co. Sands 1, C SE SE SW 35-10-9	256	3345
Indian Terr. Illuminating Co. Williams 2, C SE SE SE 34-10-9	1778	3322
Atlantic Oil Co.'s Fisher 3, C S L NW SE 26-12-10	¶	812
Tidal Oil Co. Hawkins 2, NWc NE 3-11-11	*	2892
Okmulgee County—		
Clover Oil Co. Grant 3, C S L SW NW 3-15-11	50	2013
Jackson & Wise's Grayson 5, C N L NW SW 3-15-11	20	2016
Sheridan O. & Ref. Co. Willis 1, NWc SW 6-15-11	*	3098
George Whitman Tiger 1, SEc NE SE 31-14-11	*	3205
Elm Oil Co. Rentie 14, C E L NW SW 13-14-14	*	1539
Wanderlick Fields 8, C W L NW SE 13-14-14	*	1091
Misner's Love 5, SWc NE 16-14-14	*	1710
W. R. Summerville No. 2, C E L NE NW 28-14-14	25	1965
Osage County—		
Phillips Pet. Co. No. 4, C E L NE SE 10-21-9	75	3302
Titus-Norris-Bird No. 3, NEc 23-21-10	20	2558
Pawnee County—		
Rex Oil Co. Martin 7, NWc SW SE 20-21-8	*	3255
Adamson's Meyers 2-A, C S L NE SW 32-21-8	*	2610
Ora Steen's Canfield 3, NEc SE 17-20-7	250	2695
Payne County—		
Josey & Marland Ellis 4, NWc 36-19-5	165	3488
Carter Oil Co. Cox 2, C NE NW SE 17-19-6	*	3709
Seminole County—		
Prairie O. & G. Co. Buckner 4, C SE NE SE 8-10-8	624	3480
Buckner 1, C SE SW NE 8-10-8	650	3542
Buckner 2, C NE NE SE 8-10-8	180	3505
No. 5, C NE SE SE 8-10-8	1700	3501
Amerada Pet. Corp. Starr 2, C SW SW NW 9-10-8	1750	3461
Pure Oil Co. Bunner 3, C SW SE SE 9-10-8	*	2430
Bunner 10, C NW NE SE 9-10-8	67	3440
Bunner 7, C SE NE SE 9-10-8	284	3484
Sinclair-Transcontinental Bunner 7, C SW NW SW 9-10-8	1200	3492
Sinclair O. & G. Co. Clark 1, C SW NW NE 4-10-8	2000	3433
Kinwood-Sinclair Berryhill 3, C NE SW NW 10-10-8	20	3477
Carter Oil Co. Hill 1, C NW NW NW 10-10-8	40	3462
Little 1, C NW SW NE 10-10-8	40	3492
M. Hill 3, C SE NW NW 10-10-8	89	3448
Roxana Pet. Corp. Berryhill 2, C SW SE NW 10-10-8	350	3468
Proctor 1, C NE NW SE 16-10-8	286	3505
Stephens County—		
Fisher & Brannon Worrel 3, C E L SE NW 22-1s-8w	¶	2006
Holbrook Producing Co. A. Hickman 1, C S L SE SE NE 30-2s-7w	*	1810
Tulsa County—		
Brocke et al's Rogers 2, C N L NW NW 33-20-14	5	1700
Sand Springs Home, Johnson 1, NEc SW NE 14-19-11	*	2230
Foster 1, C S½ NW SW 7-19-12	*	2156
A. J. Pettit et al, Chilers 1, NWc NE 10-17-14	*	1430
C. M. Hawks et al, Wilbur 1-A, C SE SE 36-21-13	*	1587
Echo Oil Co.'s Grayson 1-A, SWc NE SW 5-19-12	50	2049
Green et al Harmon 1, C N L NW NE 26-18-14	*	1365

Kansas

Chautauqua County—		
H. G. Glidden et al's Lemon 1, SEc SW 27-32-11	*	2115
Thompson et al's McKistler 1, SE NW SE 6-32-10	*	2578
Cowley County—		
Waite Phillips et al's True 1, NEc NW 29-33-3	*	3190
Elk County—		
Pure Oil Co.'s Green 1, NWc NE SE 14-31-10	40	1359
Arkansas Fuel Co.'s Perkins 1, C SW SE 28-29-9	¶	1545
Richie & Moore's Hyde 1, NEc SW 17-30-9	*	2600
Watchorn O. & G. Co.'s Denton 2, NWc NE NW 3-30-9	25	2277
Ohio Fuel Co.'s Burge 3, C NE SE 14-30-8	¶	1737
Anderson et al's Smith 1, C SE SE 21-29-9	¶	1545
Greenwood County—		
Pyor & Lockheart's Derbyshire 1, NWc NE SE 13-22-10	140	2134
Gillespie's Browning 7, C SE SE NE 19-22-10	200	2332
Derby Oil Co.'s Teeter 1, SEc SW 36-23-9	*	2382
Mid-Kansas Oil Co.'s Martindale 8, C E L SE 31-23-10	75	2363
Page Bros.' Wiggins 1, SWc SE SW 33-32-10	50	1643
York State Oil Co.'s DeMalorie 9, C SE NE SW 32-22-11	75	1972
Lyon County—		
Jennings Bros.' Greider 1, C E L SE NW 4-21-12	*	2502
Russell County—		
Garfield Buell et al's Deesworth 1, SEc NE SW 1-14s-11w	*	3601
Producers & Refiner's Haise 1, NWc SE 24-12-15w	*	3635
Sumner County—		
F. Wahn et al's Gatz 1, NWc NE 9-33-2	*	2667

Eastern States

PENNSYLVANIA

Bradford Field—		
South Penn Oil Co. Bingham 160, tract 54	7	....
Bingham 439 tract 72	2	....
Bingham 499, tract 37	3	....
Bingham 576, tract 96	7	....
Riddle 40	3	....
Fee 50	4	....
Wilbur 1	5	....
Emerson 1	4	....
Leasure 1	5	....
Armstrong 1	2	....
Hodge 1	*	....
Kishwaukee Oil Co. Bingham 173, tract 46	20	....
Associated Producers Co. Bingham 164, tract 329	3	....
Bingham 368, tract 327	2	....
Bingham 291	5	....

Books for Field Men

Petroleum Production Methods

By John R. Suman. Third Edition, completely revised and brought down to date. Off the press October 15, 1923. Eighty pages of new material added. Among many others the following new features are especially worth noting:

Improved Rotary Drilling Methods—Core Drilling, latest "Dope" brought down to date. Mud-Laden Fluid—Newest features fully discussed. Latest Drilling Devices fully described—The "Make and Break" rotary. Collapsible bits and other new bits. Weight indicators.

Diamond Drilling for Oil—Exploration and Exploitation. What do you know about this newest device being used by Oil Companies all over the world? This system fully described and illustrated. Cost of Power for Drilling Various Methods. Latest Cost Data on drilling in various fields. Temperature of Drill Holes. Swabbing. Evaporation Losses on stored oil and how to stop them. Heat Treatment for Drill Bits. Latest "A. P. I." Tables for correcting gravity readings according to temperature reading. These tables are absolutely new and have not been published elsewhere to date.

Chapter Headings: Drilling Methods—All systems fully described. Method of shutting off water—full description of cementing methods and use of Packers. Operation of Properties and handling of production. Treating Emulsions—a very important subject thoroughly discussed. The use of electric power; this newest kind of power for oil field use thoroughly described in all of its various phases. Pipe Line—construction and operation, friction losses, etc. Tanks—construction of, preparation of gauging tables and prevention of evaporation losses. Tables and useful information condensed. Information on various subjects, which oil men are constantly needing for reference. 650 pages, fully illustrated. Cloth.

Price, postpaid $6.00

Deep Well Drilling

By W. H. Jeffery. A comprehensive hand book covering in detail modern practices of well drilling by both the standard or cable tools and the hydraulic rotary systems.

The following synopsis will indicate how thoroughly the author has covered the subject:

I. Geology—bibliography of publications of the oil and gas geology of North America—chart showing productive sands. II. Derricks, and drawings, with directions and specifications for building; specifications for outfits for drilling wells from 600 feet to 7500 feet in depth. III. Cable or standard system of drilling, including rigging up, spudding, driving pipe, drilling, underreaming and bit dressing. IV. Fishing for lost tools. V. Rotary system of drilling, including specifications for derricks, drilling, handling pipe, fishing, and specifications for drilling outfits. VI. Drilling by the combination cable and rotary system. VII. Drilling by the hydraulic circulating system. Use of mud laden fluid. VIII. Casing methods, casing used in various fields, collapsing pressures and safe lengths of string, casing equipment. IX. Use of packers. X. Cementing casing; shutting off bottom water. XI. Well shooting. XII. Finishing and shutting in oil and gas wells, setting screens and liners and washing rotary drilled wells, pumping methods. XIII. Costs of drilling in various localities. XIV. Strength of materials, including safe working loads for derricks, casing equipment, factors of safety, etc. XV. General information relating to drilling, oil, gas, steam, lubrication, electricity, etc., including tables of drilling equipment. XVI. State laws relating to drilling, abandoning, plugging oil and gas wells and to oil and gas. 518 pages, 240 illustrations.

Price, postpaid $5.00

Petroleum Production Engineering

By Lester C. Uren, Associate Professor of Petroleum Engineering, University of California.

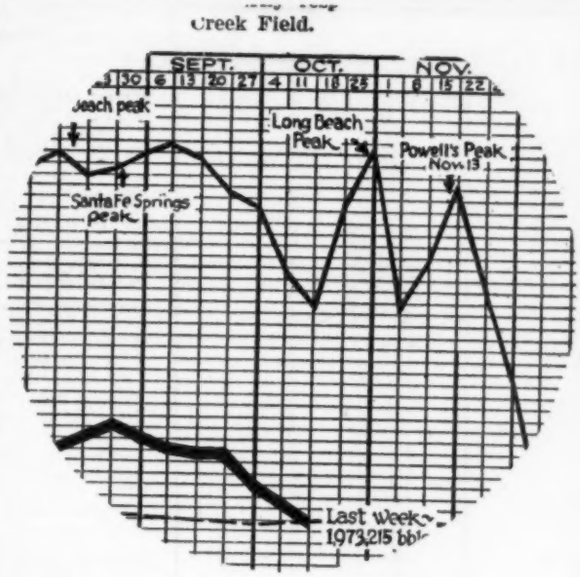
Condensed outline of contents: I. Petroleum Exploration and prospecting. II. Acquisition of Title to Oil Lands. III. Maps and Sections; Graphic Logs and Peg Models. IV. Developing the Field. V. Churn Drilling Methods. VI. Rotary Drilling Methods. VII. Casing, Casing Appliances and Casing Methods. VIII. Fishing tools and methods. IX. Oil field Hydrology; Exclusion of Water from Oil and Gas wells. X. Control of high-pressure wells. XI. Finishing the well. XII. Production methods; Removal of oil from wells. XIII. Production methods; Management of wells to secure maximum production. XIV. Power for oil field purposes. XV. Gathering, local storage and shipping of petroleum; gauging, sampling and testing. XVI. Preliminary refining of petroleum; dehydrating and separation of sand and gas. XVII. Storage. XVIII. Transportation. XIX. Auxiliary plants and departments. XX. Office methods and records. 653 pages, 6x9, illustrated.

Price, postpaid $6.00

Send Check to

The Gulf Publishing Company

P. O. Box 1307, Houston, Texas



How to Combat This Uncertainty

Oil production and price curves generally look like the teeth of a cross cut saw. It is difficult to tell what is going to happen next.

Similarly those who use the old type of working barrel don't know what will happen next. They are continually pulling their wells because there is no certainty about the barrel.

Why not put

"Tex"

Trade Mark Reg.
U. S. Pat. Off.

Plunger Working Barrels

in your wells and get rid of cut oil difficulties, avoid working barrel troubles, and save a vast amount of money?

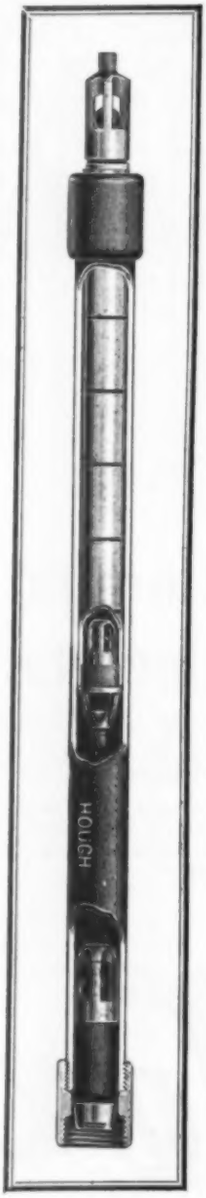
Put a "TEX" in your WORST well and you'll put a "TEX" in every one. Learn for yourself how dependable the "TEX" really is.

At least ask for literature, prices, etc.

BRADFORD MOTOR WORKS

Bradford, Pa.

Branch Factory & Warehouse: Tulsa, Oklahoma.



FOR SERVICE

The HOUGH Plunger Working Barrel is accurately designed and sturdily constructed to give long service under the most difficult and exacting circumstances.

Can we say more?
Ask your dealer—he knows.

The Charles N. Hough Mfg. Co.
Franklin, Pennsylvania

Products that cut down your underground overhead

Company, Well and Location	Initial Production Bbls.	Depth
Bingham 296	4	....
Bingham 305	4	....
Forest Oil Co. Forest 1	3	....
Franks 1	4	....
Bingham 368, tract 41	5	....
G. W. Bovaird Bingham 391, tract 76	5	....
McCalmont Estate Bingham 1	10	....
Hazlewood Oil Co. Hazlewood 1	5	....
W. C. Kennedy Co. Kennedy 39	10	....
Woodward & Co. Woodward 15	5	....
Art Yahn Burns 1	5	....
Roeder & Hospkins Lot 2593 tract 1	5	....
Thomason & Son Borden 1	4	....
Hongiville & Co. Hongiville 6	4	....
Barry Bros. Bingham 1	3	....
Lilly Estate Middaugh 1	¶½	....
Venango County—		
Midland Oil Corp. Stevenson 36	4	....
Brutche, Turk & Co. Smith 12	3	....
Leedom & Co. Miles 4	2	....
McCalmont Estate McCalmont 41	*	....
Hancox & Co. Coal & Iron tract 2	*	....
C. B. Kern Kern 8	3	....
Butler County—		
Bear Creek Oil Co. Donnelley 1	30	....
Pyle & Co. Pyle 3	7	....
Neff & Elliott Helm 2	7	....
Porter & Co. Keystone 1	¶1½	....
American Natural Gas Co. Henry Heirs 1	¶1	....
Harting Heirs 1	*	....
Campbell & Co. Staley 1	*	....
Clarion County—		
Phillips & Lamberton Porter 1	5	....
Kaufman & Corlette Kaufman & Co. 1	¶1	....
Alum Rock Gas Co. Garis 6	2	....
Kapp-Graham 9	¶1	....
Wheeling 10	¶1	....
Greene County—		
Carneigie Nat. Gas Co. Frank Lemley 2	¶2	....
Peoples Nat. Gas Co. Lawrence Yager 1	¶2	....
H. D. Freeland G. Cumberledge 1	¶2	....
J. J. & G. W. Bonnells W. S. Hughes 1	¶1½	....
Natural Gas Co. of W. Va. George Stiles 1	*	....
Allegheny County—		
Leidecker & Co. Wattenproof 1	5	....
Smith & Co. John Gillen 1	¶2	....
Westmoreland County—		
Peoples Natural Gas Co. Booth-Flynn 2	¶½	7430

NEW YORK

Allegany County—		
M. J. Crowley & Co. Coast 1	7	....
R. J. Dermitt Dermitt 1	4	....
J. E. Le Suer Le Suer 1	4	....
Le Suer 2	4	....
Empire G. & F. Co. Empire 1	3	....
Willets & Co. Willets 1	3	....
Sawnet Oil Corp. Sawnet 1	3	....
E. J. Atwood & Co. McAndrews 1.	2	....
J. P. Herrick Herrick 1	2	....
Wasson & Sawyer 1	7	....

WEST VIRGINIA

Ritchie County—		
Charles Lewis & Co. Henry Maule 1	*	....
Barker & Smith John Allender 1	2	....
Hope Natural Gas Co. J. J. David 1	¶1	....
Andred Bird 1	¶1½	....
Carnegie Natural Gas Co. Creed Richards 1	10	....
Zinn & Bradwater C. S. Black 1	¶1½	....
Cold Test Oil Co. West Virginia Tract 14	1	....
Roman G. Wiles West Virginia Tract 5	3	....
S. Collins & Co. Z. Darnell 2	10	....
Calhoun County—		
Hope Natural Gas Co. Ares-McNutty 1	5	....
Jospeh Knolls 1	¶2½	....
Carter Oil Co. T. G. Force 1	*	....
Euclid Oil & Gas Co. E. A. Reip 1	*	....
W. H. Bickel Martha E. Stump 3	¶2½	....
Pleasants County—		
Marple & Carpenter J. H. Severns 1	3	....
Bailey Gas Co. Hez Hushman 1	*	....
Faith O. & G. Co. Rebecca Graham 1	*	....
Wetzel County—		
Manufacturers Light & Heat Co. Wm. Knopp 2	125	....
Littleton Gas Co. Jesse Orndorf 1	5	....
Doddridge County—		
Clifton O. & G. Co. Flora Freeman 3	20	....
Columbia Carbon Co. Lewis Maxwell 16	*	....
Cabell County—		
Monickle O. & G. Co. Schaub 1	¶1½	....
Midway City Gas Co. Thomas Vance 2	¶¼	....
Kanawha County—		
United Fuel Gas Co. H. D. Withrow 1	¶2½	....
A. F. England 1	¶1	....
Gilmer County—		
Carter Oil Co. John Hall 1	¶2½	....
Hope Natural Gas Co. E. L. Collins 1	¶3	....
Boone County—		
Pure Oil Co. Williams Coal 199	50	....
Wood County—		
New York Pet. Co. Eliza Musser 10	2	....
Lewis County—		
Philadelphia Oil Co. J. W. Wilson 1	¶2	....
Braxton County—		
W. Virginia Central Gas Co. P. H. Westfall 2	¶4	....
Marshall County—		
Manufacturers Light & Heat Co. L. Burley 3	¶3	....
Putnam County—		
Commercial Gas Co. Jarnes Bayes 2	¶3	....
Tyler County—		
Hope Natural Gas Co. N. Booker 1	¶1¼	....
Harrison County—		
Hope Natural Gas Co. Martin Grace 1	*	....

KENTUCKY

Allen County—			
White Plains O. & G. Co. J. Horbuckle 3	288	293
M. W. Graham Straight 1	20	432
R. A. McLain & Co. W. Frost 4	10	310
G. C. Foster Frost 1	*	302
Peerson & Nelley V. Hinton 2	*	280
Warren County—			
Rockfield Oil Co. Smith 11	40	447
Cunningham & Henry Bryant 5	20	1218
Wood Oil Co. J. Isobelle 14	3	1094
Western Engineering Dev. Co. Duncan 3	*	520
Lee County—			
Hupp, Duff & Co. James Porter 1	15	1205
Claud Porter 1	2	1442
Demise & Co. Demise 1	3	1210
Swiss Oil Corp. J. & A. Porter 2	40	1212
Barren County—			
Roerder & Stafford Neeley 1	12	470
Ziegler, Scott & Hice Bradford 2	4	561
Maxey & Brendall Oaks 1	5	502
T. L. Gorby Chamberlain 1	3	415
Lawrence-Johnson Counties—			
Garrison & Townsend Dobyne 5	100	794
Union Gas & Oil Co. J. C. Gilliam No. 1, tract 8	30	817
Fred Stone & Co. S. A. Kelley 1	10	810
Johnson-Magoffin Counties—			
Bed Rock Oil Co. J. H. Arnett 16	4	1297
A. H. Adams B. White 1	6	1108
Cumberland County—			
W. S. Raydure & Co. Mrs. Coop 3	300	950
Menifee County—			
W. O. Back & Co. Gillespie 1	10	555
Hopkins County—			
Copper-Flash Oil Co. Williams 6	10	500
Owensboro District—			
Wood Oil Co. J. M. Bartley 1	2	....
Wolfe County—			
Superior Oil Corp. Watson Hrs. 2	2	1230
Elliott County—			
Dr. Smith Bert Lewis 1	*	1100
Logan County—			
Johnson & Co. Waters 100-acres 1	*	1233

SOUTHEASTERN OHIO

Monroe County—		
Simmons Oil Co. & Co. T. J. Hale 2	2	....
Thornily & Lucas C. Haught 1	*	....
Berea Oil & Gas Co. J. Hartshorn 2	*	....
Washington County—		
Peoples Banking & Trust of Marietta E. D. Rake 15	¶4	....

Company, Well and Location	Initial Production Bbls.	Depth
Wezier & Metcalf Jacob Gross 6....	*	....
Valentine Oil Co. Valentine Hrs. 7.	*	....
Noble County—		
W. M. Patton & Co. Wm. Abbott 1	*	....
Grover Hoskins 2	5	....
Morgan County—		
Pure Oil Co. George J. Fye 3.....	40	....
Coshocton County—		
Carter Oil Co. C. E. Moore 1.....¶½-30		....
Tuscarrawas County—		
Urichsville Parties Eddy 1	2	....

CENTRAL OHIO

Athens County—		
Stephens & Co. G. S. Parker 4....	6	268
Dunham Bros. E. Bryson 1.....	¶½	862
McBride & Co. Fritz Arrents 2....	¶5	1214
Ohio Fuel Gas Co. Oscar Clark 2..	¶2	1227
Stewart Oil & Gas Co. E. Cunningham 5	*	934
Licking County—		
Wehrle Interests Susan Parr 6.....	5	....
Planet Oil Co. W. N. Weakley 3..	80	....
E. J. Edmonds & Co. J. L. Hughes 4	2	....
Ohio Fuel Supply Co. Noah Johnson 1	¶¼	....
Holmes County—		
Central Ohio Gas Co. M. F. Bell 2.	¶¼	....
East Ohio Gas Co. Milt Lowe 1....	50	....
Ohio Fuel Gas Co. Oscar Korns 2..	¶2	....
B. F. Uhl 1	¶1	....
Hocking County—		
Kachelmacher Estate J. J. Tracey 154	132	....
Logan Gas Co. J. W. Mauk 6.....	¶½	....
Ashland County—		
Ohio Fuel Gas Co. Milton Teeters 1	¶2	....
East Ohio Gas Co. Emanuel Kick 2	¶3¼	....
Medina County—		
Logan Gas Co. W. Schultz 1.....	¶½	....
Langadorf 1	*	....
Perry County—		
Chartiers Oil Co. Hocking Products Land 192	130	....
Fairfield County—		
Pure Oil Co. Owen Smith 1.....	20	....
Knox County—		
East Ohio Gas Co. S. J. Bross 1...¶1¼		....
Meigs County—		
Jupitor Oil Co. Stella Holter 1....	¶½	....
Lorain County—		
Ohio Fuel Gas Co. Leland Wise 1.	*	....

NORTHWESTERN OHIO

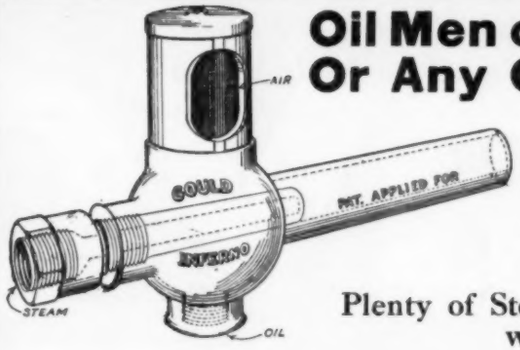
Wood County—		
A. D. Chidester Chidester 13.....	10	1500
Koontdz & Hulse D. Levers 2.....	6	1376
Ray Oil Co. S. Croaker 10.....	2	1450
Hancock County—		
Bath Township Oil Co. J. Bryan 4..	35	1365
Rainey Oil Co. Rainey 10.....	15	1310
Allen County—		
South Fork Oil Co. M. E. Gross 3.	*	1348
Deem Oil Co. J. Metzger 1.....	2	1307
Ottawa County—		
Reynolds Oil Co. Reynolds 2.....	11	1300

INDIANA

Jay County—		
Amber Oil Prod. Co. N. Thomas 3	10	1150
Mesel & Spencer Jeffries 4.....	20	1143
Barnett, Truler & Co. L. B. Craig 1	*	1200
Wells County—		
Lewis Oil Corp. J. E. Davis 10....	40	1200
Gibson County—		
J. H. Young & Co. T. Compton 1..	20	1497
Grant County—		
Scott & Shisler W. Troyer 2.....	2	1132

ILLINOIS

Cumberland County—		
C. Karnes F. Granchen 1.....	*	....
Central Illinois Pet. Co. Dobbs-Brewer 1	*	2900
Clark County—		
Ohio Oil Co. A. W. Covalt 3.....	30	1436
Wabash County—		
Joseph Young & Co. W. Armstrong 1	*	1518



Oil Men of Wortham Or Any Other Place

where a Rapid Drilling Campaign is in progress, such as in the new Wortham Field, will always be able to keep up a sure fire and

Plenty of Steam All the Time with the

Gould "Inferno" Oil Burner

Carried in stock by dealers at Mexia and Corsicana, and in other important fields. The Inferno always works, cannot clog, and requires no attention.

Write or Wire for Bulletin No. 2. It's Free

GOULD BURNER COMPANY

Sinclair Building Shreveport, La.

United States Torpedo Company

Manufacturers of

NITRO GLYCERINE and DYNAMITE

Main Office: Electra, Texas. Phone No. 584

TEXAS STATIONS

Electra.....Phone No. 584

Burkburnett—
E. H. Simons.....Phone No. 14

Ranger—J. A. Rapp.....Phone No. 382

Colorado—C. F. Simpson..Phone No. 269

Breckenridge—
W. H. Blair.....Phone No. 68

Amarillo—
Tex Thornton .....Phone No. 907-W

OKLAHOMA STATIONS

Healdton—H. L. Rapp.. .Phone No. 191

Duncan—Lee Van Dell....Phone No. 715

All Pioneer Oil Well Shooters

It's a Wilson

Send Today for Literature on the New WILSON TUBING TONGS!

Light-weight—Husky—Fast-Working!

Wilson & Willard Mfg. Co.

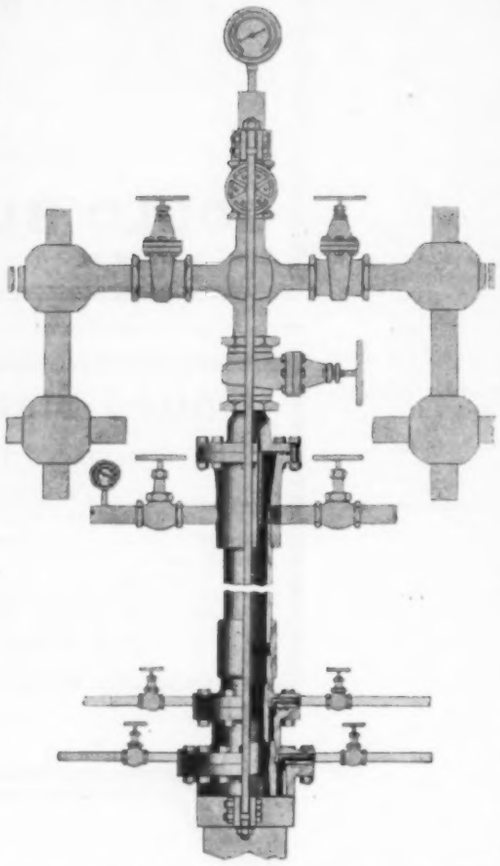
MANUFACTURERS

It's a Wilson

Distributed By WILSON OIL TOOLS CORPORATION

Factory and Distributors Office
2301 E. Vernon Ave.
Los Angeles, California U.S.A.

havoc!



Prevent wild wells with the Regan Control Head! Here is the greatest PROTECTIVE insurance you can get! Extremely low in cost yet it gives you positive control regardless of what condition may arise. In the high-pressure fields of California where the reliable Regan has been installed, there has never been a single failure—NOT ONE!.....This ingenious device absolutely controls; it prevents leakage; it controls gas while drilling; it permits quick capping without danger—it prevents wells from "blowing wild!".....Full and complete information upon request. Write for it today.

Regan

Forge & Engineering Co.

Manufacturers of Oil Well Equipment

San Pedro, California U.S.A.

New York Office: Woolworth Bldg., 233 Broadway, Wm. Braat, Manager. New York Cable Address: "Braat"

A. B. C. Code; 5th Edition; 5th Edition Improved; 6th Edition. Los Angeles Cable Address: "Regantorge" Western Union Five Letter Code.

Permits Granted and Locations for New Wells

(California—Kansas—Oklahoma—Texas—Arkansas—Louisiana)

ARKANSAS

Ouachita County—H. E. Clark's Smith 2, 26-15-17, 200 ft S and 150 ft W of NEc N½ NE¼ NW¼. Galloway et al's Hughes 2, 28-15-16, center of south line NW¼ NE¼. Hunt et al's Anderson B-6, 23-15-17, 200 ft N and E of SWc NW¼ SE¼. Magnolia Pet. Co.'s Smith 10, 31-15-16, 330 ft S and 200 ft E of NWc SE¼ NW¼. H. A. Schmuller et al's Wells 1, 25-15-17, 200 ft N and E of SWc NW¼ NW¼ SE¼. Staves et al's Jeffus 4, 26-15-16, 200 ft N and E of SWc NE¼ SE¼.

Union County—Gulf Ref. Co.'s Warner 24, 6-16-16, 200 ft S and 860 ft W of NEc of Section. Haggett et al's Clawson 1, 3-16-17, lcn. Howell et al's Williams 1, 3-16-15, 200 ft S and E of NWc Lot 3, in NE¼ NE¼. Penguin Oil Co.'s Berry 3, 18-16-15, 200 ft S and E of NWc SE¼ NE¼. Pure Oil Co.'s Hicks 1, 20-16-15, 330 ft S and E of NWc NW¼ SW¼; Lawton 1, 30-16-15, 200 ft N and W of SEc NE¼ NE¼. Southerland et al's Neeley 4, 1-16-17, 200 ft N and E of SWc Lot 4, NW¼.

CALIFORNIA

Dominguez Field—Henderson Pet. Corp.'s Susanna 1, 34-3-13.

Long Beach Field—Pan American Pet. Co.'s Butler 1, 19-4-12.

Los Angeles County—Chas. McFadden's No. 1, 8-3-14.

Midway Field—Pacific Oil Co.'s No. 70, 31-31-24; No. 47, 5-32-24. Pyramid Oil Co.'s No. 11, 28-32-24. North American Oil Co.'s No. 16, 30-31-24.

Napa County—John E. Callahan's Prospect 1, 19-8-3.

Newhall Field—Crawford Synd. Oil Co.'s No. 3, 13-3-13.

Rosecrans Field—Marine Oil Co.'s No. 3, 7-3-13. Geo. E. Getty Inc.'s Athens 1, 7-3-13; Athens 2, 7-3-13.

Santa Barbara—Walter W. Greeg's No. 1, Lot 77, Cerca del Mar subdivision.

Santa Maria Field—Rice Ranch Oil Co.'s No. 8, 23-9-34.

Sunset Field—Midway Northern Oil Co.'s No. 11, 31-12-23.

Torrance Field—Superior Oil Co.'s Torrance 56, 25-4-14. Geo. F. Getty's Torrance 25, 8-4-14. Pet. Midway Co. Ltd.'s Churchill 1, 8-4-14. Standard Oil Co.'s Marble Fee 32, 15-4-14; Marble Fee 31, 15-4-14; Flint 2, 16-4-14.

KANSAS

Butler County—Mathews & Ralston's King 1, NEc NW SW 17-24-4. Shawver et al's Clevenger 1, SWc SE NE 29-29-5.

Chautauqua County—Noble O. & G. Co.'s Holroyd 1, C W L SE NE 31-33-10.

Cowley County—Trees Oil Co.'s Shaffer 2, SWc SE NE 10-31-3. Arkansas Oil Co.'s Clark 2, SWc NW 11-31-3. Shawver & Sutter Eastman 1, SWc NW 5-31-6. Martin & Wilson's Eastman 4, SEc NW SW 5-31-6. Gypsy Oil Co.'s Cook 1, SWc SE 13-23-4; Shannon 5, NEc SE NW 24-23-4; Shannon 6, SEc NE NW 24-32-4; Shannon 7, NEc NW 24-32-4. J. A. Hull Co.'s Kukuk 9, NWc SW NE 24-32-4; Kukuk 10, SWc NW NE 24-32-4; Kukuk 11, NWc NE 24-32-4. White Eagle O. & R. Co.'s Binger 1, 25-32-4. Marland Ref. Co.'s Graham 5, SWc SE NE 9-33-3. Waite Phillips' Tuttle 1, NEc SE NW 7-34-5.

Greenwood County—Sinclair O. & G. Co.'s Browning 8, NWc SW 20-22-10. Titus et al's Prather 1, NEc 30-22-10. Henderson & Holden's Bersie 3, SWc NW SE 22-22-11. York State Oil Co.'s DeMalorie 6, NEc SW 32-22-11. Skelly Oil Co.'s Jones 1, C N L NE 6-22-12. Transcontinental Oil Co.'s Green 2, NEc SE SW 2-23-9. Empire Gas & Fuel Co.'s Teeter 16, NEc SE 16-23-9; Teeter 17, SEc NE 16-23-9; Teeter 18, NEc SE NE 16-23-9. Mission Oil Co.'s Thrall 44, NEc NW SE SE 29-23-10. Mid-Kansas Oil Co.'s Martindale 14, SEc SW SW 31-23-10. Theta Oil Co.'s Souder 8, NEc SW 3-23-13. R. G. Gillespie's Gribblin 8, C N L NE 28-23-13. Federal Oil Corp.'s Cartwright 2, NEc NW NW 6-24-10. Omar Oil Co.'s Morgan 1, SEc NW 16-24-12. Rhodes & Able's Blackwell 1, SEc NE 16-24-13. Geo. W. Moore's Norris 1, SEc NE NW 21-24-13. Rodgers et al's Coulter 2, SWc NE NW 16-25-9.

Labette County—Noble Oil Co.'s Turman 1, NWc SW NW 1-32-20.

Montgomery County—Harwood & Hazlett's Good 2, SWc NW SE NE 12-33-16. Cross Producing Co.'s Good 3, SEc NE SW NE 12-33-16. Empire Gas & Fuel Co.'s Good 2, NWc SE 12-33-16 J. E. Weible et al's Dabis 1, SEc NW NE 30-33-16. Stryker et al's Fowler 1, NWc of Lot 5, 6-33-17.

Woodson County—Rodgers & Hinkle's Weide 5, NEc SW 32-23-15. Arkansas Fuel Oil Co.'s Weide 1, NWc SW 1-24-14. Lima-Iola Oil Co.'s Allen 2, NEc NW SE 2-24-4.

LOUISIANA

Bossier Parish—Louisiana Oil Ref. Corp.'s Bodcaw Fee A-18, 15-19n-11w, 365 ft N and 350 ft W of SE Cor. of NE¼ of NE¼.

De Soto Parish—L. V. Ulrey et al's Deas 1, 23-11n-12w, 660 ft S and 660 ft E of NW Cor; Bishop-Robertson 1, 22-11n-12w, 200 ft N and 200 ft E of SW Cor.

Morehouse Parish—Natural Gas Prod. Co. of Louisiana's Crossett 14, 19-22n-5e, Exact center of section.

Union Parish—Simms Oil Co.'s James 1, 16-22n-3w, 330 ft N and 330 ft E of SW Cor. of NW¼ of NE¼.

Webster Parish—Humble Oil & Ref. Co.'s Bodcaw Lbr. Co. B-10, 28-21n-10w, 990 ft S and 330 ft E of center. Louisiana Oil Ref. Co.'s Gray 2, 28-21n-10w, 330 ft N and 330 ft W of SE Cor. of NE¼ of NW¼; Nelson 3, 28-21n-10w, 330 ft S and 330 ft E of NW Cor. of SW¼ of NE¼. Ohio Oil Co.'s Bodcan Lbr. Co. 13, 15-21n-10w, 330 ft S and 330 ft W of NE Cor. of SW¼ of NE¼; Bodcan Lbr. Co. 14, 27-21n-10w, 330 ft N and 330 ft E of SW Cor. of NW¼. Oil Fields Gas Co.'s Hope B-4, 24-21n-10w, 350 ft S and 270 ft W of NE Cor. of NW¼ of NE¼; Hope B-5, 13-21n-10w, 330 ft N and 270 ft W of SE Cor. of SW¼ of SE¼; Hope B-6, 13-21n-10w, 330 ft S and 270 ft W of NE Cor. of SW¼ of SE¼. J. K. Wadley's Wadley 1, 31-23n-9w, 220 ft S and 220 ft E of NW Corner.

OKLAHOMA

Carter County—Humble Oil & Ref. Co.'s Hales 2, C NE SE SE 28-1s-3w. Magnolia Pet. Co.'s Fish 1, C NW NE SW 34-1s-3w; Westheimer 1, Fee, SE NE NE NW 28-5s-1e.

Creek County—Olean Pet. Co.'s Washington 8, NW SE SW 32-17-8. Jomack Oil Co.'s Mitchell 4, SE NE SW 17-15-8. Texas Co.'s Johnson 3, NW NE SW 26-14-8. Bennett et al's Holden 6, NE SW NE 14-18-11. Wilcox & Witten's Unallotted 1, SW NE SE NW 8-16-12. Ireland et al's Freeman 2, C SW SE 8-17-11. Peer Oil Co. et al's Stewart 1, SE SE SE 32-17-12. Ireland et al's Maxwell 4, NW NE NE 17-16-12. Tom Kelly et al's Greenwood 3, SW SW NE 4-14-10.

Grady County—Carter Oil Co.'s W. F. Dryden 1, C NE SW 2-4n-8w.

Garfield County—Sinclair O. & G. Co.'s Hartley 7, C SE SW NW 18-22-3w; Kisner 13, C NE NW NE 19-22-3w; Laura Crews 10, C NW NW NW 19-22-3w.

Garvin County—Magnolia Pet. Co.'s W. B. Herby 1-B, SE NE SW 11-1n-3w (old well deepened); Jones 10, C NW NW SE 14-1n-3w.

Hughes County—Burk Greis' Simon 1, SE NE SE 24-9-9. Independent O. & G. Co.'s Bruner 1, C NW NW NW 1-9-9; Bruner 2, C SW NW NW 1-9-9; Alexander 2, C NE NE NE 2-9-9; Alexander 3, C SE NE NE 2-9-9; Alexander 4, C NE SE NE 2-9-9. Mutual Oil Co.'s Mary Carter 2, C NW NW NW 4-9-9. Furman Pet. Co.'s Bunny Harjo 1, C SW NW SW 26-9-9. Magnolia Pet. Co.'s T. Baker 1, C NW SE SW 4-9-11.

Lincoln County—Skelly Oil Co.'s Ford 1, NE NE NE 7-15-6.

Okmulgee County—J. B. Kelly & Noble O. & G. Co.'s Kelly 2, SE NW NW SW 3-15-11. Sheldon Oil et al's Graham 1, NE NE NE 22-15-11.

Okfuskee County — Anglo-Texas Oil Co.'s Shelton 1, SW SE SE 32-12-11. Independent O. & G. Co.'s Jacobs 1, NW SE SW 33-12-11 (old well deepened). Tuhrman & Shaffer E. Samuel 1, C SE NW 22-10-9. Slick's K. H. Sand 6, C SE SE SE 35-10-9. Cosden O. & G. Co.'s M. Carboge 2, C SW NE SW 35-10-9; M. Carboge 3, C SE NW SW 35-10-9.

Weekly Comparison of New Wells

Following is a condensed table giving a comparison of permits or locations made for new wells in Kansas, Oklahoma, Arkansas, Louisiana, Texas and California.

	Number of Wells for Week Ending															
	Aug. 22	Aug. 29	Sept. 5	Sept. 12	Sept. 19	Sept. 26	Oct. 3	Oct. 10	Oct. 17	Oct. 24	Nov. 1	Nov. 8	Nov. 15	Nov. 22	Nov. 29	Dec. 6
Kansas	16	10	19	6	14	23	21	25	16	12	30	38	23	36	33	44
Oklahoma	80	68	51	73	63	60	66	43	32	47	53	77	61	56	53	68
Arkansas	11	2	19	13	13	12	7	7	16	14	12	9	17	16	16	13
Louisiana	8	7	9	9	12	14	5	10	9	5	19	11	10	11	23	14
Texas	89	82	85	130	78	110	96	86	107	129	103	111	150	111	156	100
California	25	16	18	..	14	19	21	18	22	17	20	23	17	16	14	21
Total	229	185	201	231	194	238	216	189	202	224	237	269	278	246	295	260

Eclipse Deepwell Pulling Machine

Weight

Safety Standard up to 2000 ft. 2" Tubing Weight.....3075

Safety Special up to 3000 ft. 2" Tubing Weight.....3385

Weight

Eclipse Std. up to 2000 ft 2" Tubing Weight.....2785

Eclipse Special up to 3000 ft. 2" Tubing Weight.....3000

Eclipse Deepwell up to 8000 ft. 2" Tubing Wt. 3645

Wreckers also made to order, approximate weight 5000 lbs. One of our customers stated that he has pulled a weight equal to 100 tons with one of these machines.

Specifications Deep Well

Mast 8x10x36 ft., Douglass Fir A-Style, Two Wheel Truck, two 16" Bronze bearing crown pulleys, 2¼ Steel Pin mounted in malleable boxings. Large supporting plate 16" dia. between crown pulleys, eliminating any chance of bending pin.

Reel or Drum: 32 lb. 8¼ casing filled with concrete for winding drum, differentials banded with 3/16 band iron, brake surface 6"x40", choke brake style same as star drilling machine.

The whole reel assembly is mounted on 2¾ square steel shaft extending clear through reel, secured by three heavy castings.

For sale by all Supply Companies

Manufactured by

SAFETY PULLING MACHINE COMPANY

INDEPENDENCE, KANSAS

Crude Oil Emulsions Successfully Treated

- - - by the - - -

Electrical Dehydration Process

• Analysis, Tests, and Estimates Furnished •

PETROLEUM RECTIFYING
COMPANY OF CALIFORNIA

308 UNION OIL BLDG.
LOS ANGELES, CALIFORNIA

336 Humble Building, Houston, Texas

Kingwood Oil Co.'s H. Sand 7, C NE SW SW 35-10-9; H. Sand 8, C NW SE SW 35-10-9. Amerada Pet. Co.'s E. Harjo 1, C SW SW SW 36-10-9.

Pawnee County—Magnolia Pet. Co.'s Robodeaux 5, C SW SE SE 32-23-3e. Watchorn O. & G. Co.'s Miller 8, C SE SW SW 33-23-3d. Magnolia Pet. Co.'s B. Diamond 1, C NW SW NE 4-22-3e. Watchorn O. & G. Co.'s Miller 2, C N L NE NW 4-22-3; Miller 3, C SW SE NW 4-22-3e; Altaffer 4, C NW NE NE 4-22-3e. Magnolia Pet. Co.'s Gowling 1, C SW SE SW 9-20-6e.

Seminole County—Cosden O. & G. Co's Jackson 9, C SW NW SW 4-10-8; Jackson 10, C SW SW 4-10-8. Southwestern Pet. Co.'s W. Jackson 3, C NE SE NW 4-10-8; W. Jackson 4, C SE NE NW 4-10-8. Sinclair O. & G. Co.'s Yarbrough 2, C SE NW NE 4-10-8; Yarbrough 3, C SW NE NE 4-10-8; Yarbrough 4, C SE NE NE 4-10-8. Tidal Osage Oil Co.'s Luther Baker 2, C SE NW NE 8-10-8. Gypsy Oil Co.'s J. Hall 8, C NW SW NE 9-10-8. Amerada Pet. Co.'s D. Hill 4, C SW NW NE 9-10-8. Carter Oil Co.'s T. B. Hall 4, C NW NE NW 9-10-8; T. B. Hall 5, C SE NE NW 9-10-8. Houston Oil Co.'s John Harjo 3, C NW NE SW 15-10-8.

Tulsa County—Sand Springs Home's Berryhill 3, C E L SE NW 5-19-12. Tulsa County's Poor Farm 1, NE NE NW 14-19-13. Green et al's Drew 1, SW NW NW 1-17-14. Frates Oil Co.'s McHenry 3, SW NW SW NE 1-17-14. Hazlett et al's Layton 1, SE SE SE 13-17-14.

Stephens County—Goldenline Oil Co.'s Teetlesen 2, C NW SW 9-1s-9w. Magnolia Pet. Co.'s Zigler 2, SWc SE SW 34-1s-5w; Audrea 2, NEc NW NE 24-2s-8w. Lone Star Gas Co.'s Reed 2, C NW NE NW 14-3s-5w.

TEXAS

Archer County—Jeffers & Morgan's W. L. Andrews 1, Wm. Spavin sur, 150 ft to W and 450 ft to S line. Texhoma Oil & Ref. Co.'s E. A. Hausler 9, blk 16, Thos. McCoy sur, 300 ft S No. 1; E. A. Hausler 10, blk 16, Thos. McCoy sur, 300 ft S No. 3; E. A. Hausler 11, blk 16, Thos. McCoy sur, 300 ft S No. 10. Humble Oil & Ref. Co.'s W. J. Ragle 3, R. E. Newman sur, 389 ft S No. 2. W. D. Cline's C. Cowan B-1, blk 28, J. C. S. L. sur, 150 ft to S and W lines. L. H. Cullum et al's F. W. Pollei 5, Thos. McCoy sur, 300 ft N No. 1. Simms Oil Co.'s S. M. Key 1, A. Hubbel sur, 150 ft to N and E lines. Shamrock Oil Co.'s N. D. Goldsmith 19, sec 70, G. P. Diggs sur, 384 ft E No. 17; N. D. Goldsmith 20, sec 70, G. P. Diggs sur, 150 ft to S and E lines. Woodburn Oil Corp.'s L. F. Wilson A-15, sec 26, Amer Trib sur, 20 ft W No. 11. P. F. Gwynn's M. E. Rogers A-3, 1600 TE&L sur, 314 ft S No. 1; M. E. Rogers A-4, 1600 TE&L sur, 337 ft W No. 1. Gulf Prod. Co.'s A. P. Nichols 2, sec 30, Amer Trib sur, 300 ft W No. 1. Swastika Oil Synd.'s A. P. Neal 2, blk 10, D. White sur, 368 ft E No. 1. Ray & Massie's E. A. Hausler 2, Thos. McCoy sur, 300 ft S No. 1; E. A. Hausler 3, Thos. McCoy sur, 339 ft N No. 4; E. A. Housler 4, Thos. McCoy sur, 150 ft to S and W lines; E. A. Hausler 5, Thos. McCoy sur, 300 ft E No. 1; E. A. Hausler 6, Thos. McCoy sur, 361 ft W No. 7; E. A. Hausler 7, Thos. McCoy sur, 150 ft to N and E lines; E. A. Hausler 8, Thos. McCoy sur, 300 ft S No. 7. Geo. L. Pace's A. P. Nichols 1, sec 30, Amer Trib sur, 150 ft to S and W lines. E. J. McJunkin's Falls Co. 1, Falls C. S. L. sur, 150 ft to N and W lines. Roy I. Carter's J. H. White 16-E, blk 34, Amer Trib sur, 150 ft to S and E lines. Comet Pet. Co.'s J. H. White 3, sec 42, Amer Trib sur, 350 ft W No. 2. Magnolia Pet. Co.'s W. F. Parrish 3, sec 26, H&TC Ry sur, 490 ft to N and 200 ft to W line.

Brown County—Mahlstedt-Mook Oil Co.'s J. W. Newton 3, Wm. Miller sur, 400 ft W No. 2. F. D. Williamson's H. A. Newton 1, sec 141, R. Mitchell sur, 600 ft to N and 185 ft to W line.

Callahan County—Bogan Higgs' M. Kennedy 1, sec 11, Bayland Asy sur, 450 ft to W and 150 ft to N line. A. J. Bremen's Wm. Isenhour 4, sec 7 and 8, Bayland Asy sur, 684 ft S No. 2; Wm. Isenhour 5, sec 7 and 8, Bayland Asy sur, 150 ft to S and W lines; Wm. Isenhour 6, sec 7 and 8, Bayland Asy sur, 300 ft N No. 4. Canyon Oil & Gas Co.'s M. Kennedy 1, Bayland Asy sur, 150 ft to S and E

lines. B. A. Duffy's J. T. Davis 4, sec 4, Bayland Asy sur, 655 ft to W and 150 ft to S line. Morrison & Kleiner Bros' B. E. Rutherford 4, sec 8, Bayland Asy sur, 210 ft to E and 1050 ft to N line. F. A. Lain's M. Kennedy 1, sec 11, Bayland Asy sur, 150 ft to N and 777 ft to E line. Parkersburg Drilling Co.'s W. E. Pruett 14, 2278 TE&L sur, 150 ft to S and W lines. G. F. Witt's J. B. Eubanks 6, 2271 TE&L sur, 1050 ft to N and 150 ft to W line. Godley Oil & Gas Co.'s R. L. Buchanan 2, sec 8, Bayland Asy sur, 150 ft to N and 450 ft to E line. Lay & Dickey Oil Co.'s S. M. Davis 1, sec 3 and 8, Bayland Asy sur, 150 ft to S and W lines. Magee Bros.' J. H. Mitchell 2, sec 132, H&TC Ry sur, 35 ft W No. 1. Multi-Chance Dev. Co.'s H. Wagley 3, sec 2, D&D Asy sur, 300 ft S No. 4; H. Wagley 4, sec 2, D&D Asy sur, 300 ft E No. 1. S. J. Taylor et al's S. J. Burnam 2, 2288 TE&L sur, 150 ft to S and 250 ft to W line; S. J. Burnam 3, 2288 TE&L sur, 150 ft to S and E lines. Texas Co.'s H. Wagley 5, 2997 TE&L sur, 1195 ft to E and 905 ft to S line; H. Wagley 6, 2997 TE&L sur, 1755 ft to W and 1842 ft to S line.

Clay County—Shappell Oil Co.'s E. M. Goetze 1, Specht & McCutcheon sur, 150 ft to N and W lines.

Caldwell County—United North & South Oil Co.'s T. C. Gideon 1, M. G. Dykes sur, 300 ft S No. 6; W. J. Tiller 4, John Henry sur, 1280 ft S No. 2; W. J. Tiller 3, John Henry sur, no lcn.

Eastland County—Magnolia Pet. Co.'s P. O. Harris 7, M. Finch sur, 300 ft N No. 5.

Freestone County—Godley Oil & Gas Co.'s Mrs. J. J. Manning 1, S. McAnulty sur, 150 ft to N and E lines; Mrs. J. J. Manning 2, S. McAnulty sur, 300 ft S No. 1. Simms Oil Co.'s W. Calame 1, R. B. Longbotham sur, 150 ft to S and W lines. C. B. Shaffer's J. Manning 1, S. McAnulty sur, 150 ft to S and W lines. Mrs. J. K. Hughes' T. L. Simmons 2, R. B. Longbotham sur, 150 ft to S and W lines.

Guadalupe County—United North & South Oil Co.'s A. Glenwinkle 1, Wakefield & Stewart sur, north central; A. J. Baker 27, H. Cottle sur, 113 ft E No. 22.

Hunt County—Gulf Production Co.'s M. E. Alexander 1, E. Tedwell sur, 250 ft to E and 150 ft to S line.

Hopkins County — Gulf Prod. Co.'s W. J. Davis 1, Jas. Clark sur, 2100 ft to S and 150 ft to W line.

Harrison County—Stateline Oil & Gas Co.'s C. M. Abney 1, E. Little sur, 2503 ft to E and 1973 ft to N line. Belmont Oil & Gas Co.'s N. W. Saunders 1, E. M. Jenkins sur, 195 ft to N and 45 ft to E line. Higgins Oil & Fuel Co.'s H. Taylor 5, J. Devore sur, 30 ft to N and 564 ft to E line. Gulf Prod. Co.'s D. Hannah 16, J. Devore sur, 250 ft W No. 7; Phoenix Dev. Co. 44, J. Devore sur, 200 ft S No. 29; Phoenix Dev. Co. 45, J. Devore sur, 200 ft S No. 40; J. C. Baldwin 11, J. Devore sur, 250 ft S No. 10.

Montague County—Texas Co.'s Mrs. M. H. Salmon 1, S. Little sur, 150 ft to N and W lines.

Navarro County—Nicolle & Ellicott's McQueen-Westbrook 1, H. H. Horn sur, 1400 ft to W and 167 ft to N line. Humble Oil & Ref. Co.'s R. I. Kent 2, Hrs J. Smith sur, 293 ft S No. 1; R. I. Kent 3, Hrs. J. Smith sur, 150 ft to S and W lines; R. I. Kent 4, Hrs. J. Smith sur, 300 ft E No. 1; R. I. Kent 5, Hrs. J. Smith sur, 300 ft E No. 4. Cranfill & Reynolds' B. F. Irvine 1, J. Broyles sur, 150 ft to N and W lines. Sun Oil Co.'s E. Swink 1, Wm. Hudson sur, 450 ft to E and 151 ft to S line. G. C. Kent's C. W. Berry 2, J. B. Barry sur, 150 ft to N and E lines.

Regan County—J. K. Hughes Dev. Co.'s University 1, sec 5, blk 9, University Lands sur, 150 ft to S and W lines. Krupp & Pickrell's University 4, sec 1, blk 8, University Lands sur, 1320 ft to N and W lines.

Shackelford County— L. B. Tannehill's H. Palm 1, sec 44, Blind Asy sur, 300 ft to W and 200 ft to S line; J. H. Elliott 1, sec 12, Insane Asy sur, no lcn. E. V. Cole et al's J. J. Edwards 1, sec 49, University Lands sur, 450 ft to S and E lines. Dr. Chas. W. Wallace's G. E. Waters 17, blk 34, University Lands sur, 300 ft S No. 9.

Stephens County—J. L. Thompson's J. W. Williams 2, sec 43, T&P Ry sur, 500 ft SE No. 1.

Wichita County—Ramming, Staley & Ramming's W. F. Ramming 6, HT&B Ry sur, 300 ft to W and 450 ft to S line. Gurr Proa. Co.'s L. P. Douglas 12, sec 11, H&TC Ry sur, 412 ft N No. 11. W. H. Hammon et al's S. H. McCarty 5, W. R. Eaves sur, 300 ft N No. 4; S. H. McCarty 6, W. R. Eaves sur, 300 ft N No. 2. F. Heine's F. P. Warren 5, J. Hensley sur, 245 ft to E and 1284 ft to S line. J. B. Rayzor's W. H. Chilson 1, blk 12, D. C. S. L. sur, 150 ft to S and W lines.

Webb County—E. T. Burton's De La Garza 1, sec 335, I&GN Ry sur, 169 ft to E and 494 ft to S line.

Wilbarger County — A. Mulligan's W. T. Waggoner 1, sec 100, H&TC Ry sur, 150 ft to N and E lines.

Young County—Geo. L. Pace's A. A. Bernhardt 1, 238 TE&L sur, 150 ft to S and W lines. E. M. Jones' L. R. Jeffrey 1, sec 58, TE&L sur, 150 ft to N and W lines. E. S. Carey Drilling Contractor's G. Roach 1, 304 TE&L sur, 150 ft to S and W lines. G. E. Litchfield's R. Campbell 2, 237 TE&L sur, south of No. 1. J. M. Dinn Oil Co.'s C. Children 1, Ben Hill sur, 450 ft to N and E lines. Camp Oil & Gas Co.'s R. Campbell 1-A, 1483 TE&L sur, 750 ft to W and 450 ft to S line.

Congress Cuts Bureau Of Mines Apropriations

Washington, D. C., Dec. 8.—A reduction of $61,630 is made in the funds allotted the Bureau of Mines for its petroleum and natural gas investigations it is shown in the bill making appropriations for the Department of the Interior for the fiscal year beginning July 1, next, which is now before the house of representatives. The sum of $465,000 is provided for this work, as compared with an appropriation of $517,630 for the current year.

The appropriation for enforcement of mineral leases is also cut, by $8600, from $95,520 to $86,920, and a cut of $14,450, to $200,000, is made in the fund for expenses of the mining experiment stations. The sum of $65,000 is carried in the bill for care and maintenance of the Pittsburgh station.

Henry M. Dawes to Head Pure Oil Company

New York, N. Y., Dec. 6.—Henry M. Dawes has resigned as comptroller of the currency and the president has announced his resignation will be accepted. Mr. Dawes will become president of the Pure Oil Company and Beman G. Dawes will step from the presidency of the company to a new place created by the board as chairman of the board of directors.

Mr. Henry Dawes comes from the Marietta family of Dawes and has been more or less active in the oil business since 1900.

There will be no other changes in the executive personnel of the company.

The Pure Oil Company is the oldest of the largest independent oil companies in the United States and under its present management has become one of the most important of the oil companies. It is a producer, transporter, refiner and marketer of oil. Its properties are valued at upwards of two hundred million dollars and it has a most enviable dividend record.

Save Your Rods and Tubing

Use the

-DIKART-

Combined Rod Coupling and Protector

It Will

Stop That Rod and Tubing Wear

Construction:

Special Bronze Bearing Metal cast around the rod coupling, making a one piece unbreakable bearing, something that is absolutely safe to run in the hole.

This Bearing not only saves the rods and tubing but eliminates to a great extent the pin breakage.

Giving wonderful service in the deep pumping wells of California, being used by

THE STANDARD OIL CO.
ASSOCIATED OIL CO.
UNION OIL CO. OF CALIFORNIA.
MARINE OIL CORPORATION.
GEO. F. GETTY
and many others.

PRICES:

Size Tubing	Box	Prices
2 in.	⅞	$2.00
2½ in.	⅞, 1, 1⅛	$2.25
3 in.	1, 1⅛	$2.75

When ordering state make and size of Rods.

A. H. BRANDON

643 Mesquit St.
Los Angeles California

You Can't Fool 'Em

Any oil field worker who has had any experience with an IRON KING pulling machine can't see any other. WHY? Because he knows that an IRON KING is easily operated, is strong and durable, quick in action and dependable at all times. He knows they are built right and will do the work at all stages of the game.

Ready for the road

Balances easy

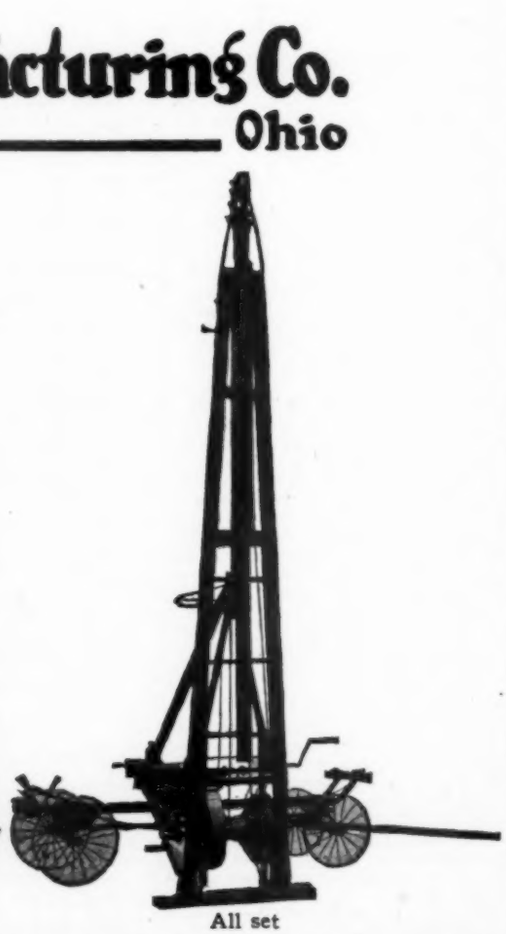
It's No Parlor Ornament

But a good, strong, durable machine that does its work as easily and quickly on the deep ones as it does on those in the shallow pay.

If your oil well supply store will not get you an IRON KING write us direct. Shall we send you a catalog?

Iron King Manufacturing Co.
Bradner Ohio

He's putting it up



All set

WILDCATS FROM ALL SECTIONS

Wildcatters Renew Interest in Area Northeast of Corsicana-Powell Field

Corsicana, Texas, Dec. 8.—Leasing activity and wildcat drilling is showing signs of being revived in the Balcones-Mexia fault region extending across the state in a general northeast direction from the Corsicana-Powell field, since the recent discovery of a new "fault field" at Wortham. More than 30 deep dry holes have been drilled since the first of the year on wildcat blocks located in the general trend of the fault zone extending northeast of the Corsicana-Powell field, and a half dozen more are drilling at depths considered doubtful for production, while one commercial gas well is the only production scored to date.

Since close drilling is required to locate the narrow producing areas in the fault region, as illustrated at Corsicana-Powell and Wortham, where dry holes had been drilled on the edges of the structure in previous years, the oil companies are planning to re-drill some of the wildcat blocks in the upper part of the fault zone. Previous efforts to trace the line of faulting directly beyond the north end of the Corsicana-Powell field has not been successful, and geologists are uncertain as to whether the trend is due north towards Kaufman County, or north by east towards Henderson and Van Zandt Counties. The latter trend has been looked upon with favor since the completion of a nine million cubic foot gasser from the Woodbine sand last May by the Boyd Oil Company on the East Bazette structure, while many of the companies are holding acreage in the east edge of Kaufman County and north across Hunt County. Elliott & Nicolle's W. J. Westbrook 1, Henry H. Horn survel, was spudded last week on acreage held about two miles south of the Boyd Company's completed gasser, while the Boyd Company has drilled 10 shallow core tests on its East Bazette block preparatory to the drilling of its fourth test in this section.

The Gulf Production Company is taking the lead in this new wildcat campaign, and is building steel derrick to sink a second test in the east part of Hunt County after having completed a dry hole last month on the C. M. Cannon farm, Robert Ragsdale survey, one mile west of Campbell, with a total depth of 3340 feet. This second test is to be drilled on the M. E. Alexander land, E. Tidwell survey, and about two miles south of the above failure. Gulf is also planning a third test to be drilled five miles southwest of Lone Oak, Hunt County. This latter test is located on the W. B. Bryan land, Jas. Cole survey, and 150 feet west of the Sabine river.

The Marland Oil Company of Texas' G. W. Kelley 1, Green Lee survey, located in the east part of Kaufman County and three miles south and west of Cedarvale, is drilling in the Woodbine sand at 3534 feet with no oil or water showing. This test logged the Austin chalk from 2442 to 2879 feet, with a surface elevation of 402 feet, and showed traces of oil and gas in sandstone formation at 3045-54 feet, and again at 3170 feet. The top of the Woodbine sand was encountered at 3495 feet. In the northeast corner of Kaufman County, J. A. Germany et al's W. S. Kirby 1, S. Edens survey, is to be abandoned this week after drilling below 3200 feet.

The Boyd Oil Company recently abandoned its wildcat test in Bowie County after drilling into salt water with a total depth of 3007 feet. This wildcat was drilled on the C. H. Thompson land, Jacob Barkman survey. In the same county, the Mission Oil Company's W. H. Nelson 1-A, Nancy Dycus survey, has pulled casing to abandon at 2860 feet.

Small Oil Well Found In Panola Gas Field

Shreveport, La., Dec. 8.—Some little interest was aroused by the completion last week of another small oil well in the Panola County Gas field, in East Texas. Two or three small oil wells have been completed in this district, but no commercial production has as yet been developed there.

The latest well was drilled on the Calvin farm by the Reeling Oil and Gas Company, and is flowing at the rate of twenty-five barrels of 40 gravity oil per day from a total depth of 1955 feet. It is flowing through tubing and a packer. It is located on the Jordan Headright survey.

North Texas Wildcats

COMPLETIONS

Company, Well and Location	Initial Production Bbls.	Depth
Throckmorton County—		
Shamrock Oil Co.'s Mrs. A. McKnight 1	*..	3425
Wilbarger County—		
Bridwell & Heydrick's W. H. Stephens 2	¶10	1260
C. F. Klop's W. T. Waggoner 1	200	2048
Ray & Massey's S. A. Dill 1	*	2060

DRILLING REPORT

BAYLOR COUNTY—Batchelder & King's E. S. Wallace 1, sd 100 ft. Crittenden et al's Hawkins 1, sd 2015 ft. Dallas Oil Co.'s Shawver Bros. 1, sd 1850 ft. C. B. Jetter et al's F. Gatzki 1, sd 500 ft. Lehman et al's Shawver Bros. 1, fsh 820 ft. Magnolia Pet. Co.'s W. H. Portwood 2, dr 1050 ft. D. H. Moore et al's H. H. Fancer 1, sd 980 ft, estimated 2 million ft gas. Nelson et al's J. Sykora 1, dr 1500 ft. Richardson Bros. et al's Wallace Estate 1, sd 220 ft.

CLAY COUNTY—Atlantic City Prod. Co.'s Scaling 1, sd 2890 ft. J. T. Cumley's N. C. Camp 1, sd 1802 ft. L. R. Dixon et al's R. H. Godfrey 2, spudded. E. C. D'Yarmitt's Scott 2, dr 660 ft. Knox Finley Dev. Co.'s Scott 4, dr 1000 ft. Lone Star Gas Co.'s Lockridge 2, sd 1525 ft. Morris & D'Yarmitt's J. Stephenson 1, sd 1260 ft. J. O'Neil's O. A. Ross 1, dr 2100 ft. Piedmont Oil Co.'s Dean 1, sd 1210 ft. Shelton Oil Co.'s H. Boddy 1, dr up ur lugs, td 1370 ft. Somers & Nantz's Mary C. Parker 1, sd 1000 ft.

COOKE COUNTY—Big Indian Oil Co.'s W. B. Davis 1, sd storage 3525 ft.

DENTON COUNTY—Arbuckle Asphalt & Pet. Co.'s K. Fonteberry 1, sd 500 ft.

GARZA COUNTY—B. V. Blackwell et al's J. M. Boren 1, preparing to pump 2450 ft. Union Pet. Corp.'s C. C. Connell 1, sd 750 ft.

GRAYSON COUNTY—W. R. Shankle et al's J. Marshall 1, second hole, sd 1100 ft.

KNOX COUNTY—Brazos Bend Oil Co.'s J. E. Clark 1, sd 2020 ft. Evans et al's Ella Lawson 1, sd 765 ft.

MONTAGUE COUNTY—Guaranty Fund Oil Co.'s E. A. Jordan 1, fsh 3460 ft. Gulf Production Co.'s M. E. Benton 1, (rotary) dr 3300 ft. Petroleum Producers Co.'s C. H. Howard 1, fsh 1050 ft. P. F. Lesh's Mrs. M. H. Salmon 1, dr 150 ft. Owenwood Oil Corp.'s Mrs. M. H. Salmon 1, rigging up. The Texas Co.'s I. A. Gist A-3, dk; M. H. Salmon 1, rigging Star Machine. Texhoma Oil & Ref. Co.'s O. Cato 1, sd 2500 ft.

STONEWALL COUNTY—Elder Nance's Ward Estate 1, dr 1440 ft.

THROCKMORTON COUNTY—Clark et al's J. L. McCarson 1, dr 1000 ft. Cragin et al's J. R. Burkhalter 1, sd 50 ft. Groves & Burton's Reynolds Cattle Co. 1, sd 672 ft. Hamilton et al's J. T. Odell 1, dr 2200 ft. C. F. Kelsey's W. D. Housley 1, sd 50 ft. King et al's A. P. Broyles 1, sd 825 ft. Bruce Larkin et al's R. E. Conger 1, preparing to dd, td 1430 ft; Mrs. T. S. Richards 1, sd 790 ft, estimated 1 million ft gas. McGee et al's J. T. Davis 1, dr 1050 ft. McNeil et al's Travis County School Land 1, rigged up. McKnight et al's A. H. Haley 1, dr 140 ft. Schimmell et al's H. W. Kelley 1, sd 100 ft. The Texas Co.'s A. L. Smythe 1, dr 480 ft. W. A. Whatley et al's Parrott 1, sd 800 ft.

WILBARGER COUNTY—American Ref. Co.'s W. T. Waggoner 1, dk. Barker & Hamilton's A. P. Morris 1, sd 305 ft. Barkley & Meadows' W. H. Stephens 1, dr 920 ft. Bridwell, Heydrick & O'Donohoe's S. A. Dill 2, dr sand 2015 ft. Bridwell & Heydrick's W. H. Stephens 3, dr sand 2050 ft; Stephens 4, flowing approximately 1000 bbls, td 2040 ft; Stephens 5, dr 1800 ft. Bridwell Heydrick & T. P. Coal Co.'s W. T. Waggoner 1. dr 910 ft. Burton & Ruff's W. T. Waggoner 1, rigging up Dill Farm Oil Co.'s W. B. Dill 1, ur cas 2300 ft. Dumas & Ellis' W. H. Stephens 1, sd 1360 ft. Electra Gulf Oil Co.'s M. Ditto 1, dr 630 ft. B. Harrell et al's W. T. Waggoner 1, rigged up. Hart et al's Smith 1, dr 2125 ft. Humble Oil & Ref. Co.'s R. L. Castlebury 1, dr 1205 ft; W. T. Waggoner 1, rigging up. J. B. Levy et al's D. Wheeler 1, dr 825 ft; W. T. Waggoner 1, spudded. Little Oil Co.'s J T Youngblood 1, dr 924 ft McCamey et al's G W Richardson 1, sd 2060 ft Ed Mulligan et al's W T Waggoner 1, dr 550 ft. Murchison & Pigg's Davis 1, rigging cable tools, td 1025 ft. Mutual Oil Co.'s C. Zipperle 1, rigged up. Noble Oil Co.'s W. T. Waggoner 1, dr 2030 ft. Oxford Oil Co.'s W. T. Waggoner 1, rigging up. Prince Bros.' C. Zipperle 1, sd 2060 ft. Ray & Massey's D. Bond et al 2, dr 1810 ft; Bond et al 3, dr 1790 ft; Bond et al 4, rigging up. W. J. Sheldon et al's W. J. Sheldon 1, fsh 1810 ft. F. S. Skinner's Fred Streit 1, dr 600 ft. South Vernon Oil Co.'s W. S. Stephens

One string does double duty when you use a

Baker Cement Basket

After the water has been shut off and another water sand is encountered between that point and the oil-bearing sand, by using the Baker Cement Basket one string performs the duty of two strings, as the basket cements off the water formation, leaving the oil sand free from water.

Using the Baker Cement Basket is very simple. The cement is pumped through a sleeve and valve into the heavy canvas basket, which is held tight against the well or casing by flat steel spring, the cement traveling upward. After cement is hardened, the valve can easily be broken out of the sleeve, giving a continuous casing of the same size to bottom of well.

It will pay you to investigate

Baker Casing Shoe Co.

803 East Slauson Avenue
P. O. Box 264 Huntington Park Station
Los Angeles, California

Factory and Office: Coalinga, Calif.
Branch Store: Taft, Calif.

You Can Profit

by taking advantage of the Pipe and Casing listed below. Look this list over —

3,500	feet	4½"	15-lb.	used	casing
6,000	"	6⅝"	24 "	"	"
10,000	"	8¼"	32 "	"	"
6,000	"	10"	40 "	"	"
4,000	"	12½"	50 "	"	"
1,000	"	15½"	70 "	"	"
250	"	20"	90 "	"	"
20,000	"	4"	used	line	pipe
20,000	"	6"	"	"	"
30,000	"	8"	"	"	"

We own and can make immediate shipment of this pipe from our Texas yards.

Keystone Pipe & Supply Company

Eastern Headquarters: Butler, Penna.
Western Headquarters: Fort Worth, Texas, 315 W. T. Waggoner Bldg.

Branch Stores
Wichita Falls, Holliday, Graham, Breckenridge, Texas

PUMPS

Pumps for All Pipe Line and Refinery Services

Catalogs and Bulletins on request

The Goulds Manufacturing Company
SENECA FALLS, N. Y.

GOULDS

4, dr sand 2050 ft; W. H. Stephens 5, dr sand 2020 ft; Stephens 6, dr 330 ft; Stephens 7, dr 490 ft; Stephens 8, dr 1500 ft; Stephens 9, rigging up. Staley & Wynne's W. T. Waggoner 1, dr 1450 ft; W. H. Stephens 1, rigging up. Texas Oklahoma Oil & Ref. Co.'s J. Bowers 1, dr 1610 ft. The Texas Co.'s R. L. Castlebury 1, lease B, dr 50 ft. R. M. Waggoner & Winnipeg Oil Co.'s Bond et al 1, dr 1800 ft. Wells & Guiberson's W. T. Waggoner 2, dr 1800 ft. Winnipeg Oil Co.'s Bond et al 3, swabbing, td 2040 ft; Bond et al 4, rigged up. G. C. Wood et al's A. Streit 1, dk.

Texas Panhandle Wildcats

COMPLETION

Company, Well and Location	Initial Production Bbls.	Depth
Carson County—		
The Texas Co.'s Burnett 4.....	75	2990

DRILLING REPORT

CARSON COUNTY — American Ref. Co.'s Burnett 3, dr 2400 ft, approx 5,000,000 ft gas. J. Crosbie et al's Burnett 1, dr 2360 ft. Culbertson Bros. et al's V. B. Armstrong 1, dr 3180 ft, looked like approx. 10 bbl well at 3164 ft. Danciger Oil & Ref. Co.'s Burnett 1, sd 3130 ft. Gates Oil Co.'s Burnett 1, running casing 3010 ft. Gulf Production Co.'s Burnett 5, set casing 1140 ft; Burnett 6, rigged up; Burnett 7, material; Burnett 1-A, dr 3090 ft. Marland Oil Co.'s Burnett 1, dr 2500 ft. Olson Bros. et al's Burnett 1, dr by bit, td 2500 ft. Premier Oil Corp.'s Burnett 1, sd 1300 ft. W. W. Silk et al's Burnett 3, second hole, dr 2375 ft. Skelly Oil Co.'s Burnett 2, ur casing 2000 ft. The Texas Co.'s Burnett 5, dr 200 ft; Mary C. Burnett 2, second hole, dr 2182 ft.

COTTLE COUNTY—T. J. Woodley et al's A. Dulaney 1, dr 2650 ft.

GRAY COUNTY—A. R. Anderson's C. W. Bradford 1, sd 500 ft. C. H. Clark et al's Coombs & Worley 1, fsh 2345 ft. Danciger Oil & Ref. Co.'s J. B. Bowers 1, dk. Frank Dillard's John Henry 1, dr 2850 ft. Wilcox Holmes' J. S. Morse 2, fsh 2400 ft. Wilcox Oil & Gas Co.'s J. H. Wilson 1, sd 3520 ft.

HUTCHINSON COUNTY — Amarillo Oil Co.'s L. Bivens 2-B, dr 2610 ft, approx. 50,000,000 ft gas. R. G. Barnum et al's Johnson 1, co, 2860 ft. Dixon Creek Oil Co.'s H. C. Smith 1, ur casing 2100 ft. Douglass Oil Co.'s J. A. Whittenberg 1, dr 2404 ft. Gulf Prod. Co.'s E. Cockrell 1, sd 3500 ft. New Domain Oil Co.'s W. S. Christian 1, dk. Prairie Oil & Gas Co.'s Diana Shaw 1, dr 2400 ft, 4,000,000 ft gas. Twin Six Oil Co.'s W. L. Kingland 1, dr 2904 ft. Western Enterprise Oil and Gas Co.'s Smith-Capers 1, fsh 3050 ft. J. W. Wilson et al's Whittenberg 1, fsh tools, 2910 ft.

KING COUNTY—W. G. Trammell et al's Spikes 1, rigged up.

MOORE COUNTY—Amarillo Oil Co.'s Masterson 1, second hole, dr 1100 ft.

POTTER COUNTY—Amarillo Oil Co.'s L. Bivens 3-A, dk; W. H. Bush 1, dr 3225 ft; J. C. Warrick 1, dk burned, td 2200 ft 5 mil ft gas.

ROBERTS COUNTY — Phil Engle et al's Mrs. Ledrick & Sons 1, sd 1730 ft.

WHEELER COUNTY — Mid-Continent Oil Synd.'s Ember 1, sd 500 ft. W. D. Shedden et al's B. F. Westmoreland 1, sd 480 ft. Union Petroleum & Supply Co.'s O. T. Nicholson 1, sd 1500 ft. J. Whittington's Williams & Laycock 2, dr 2060 ft, 15 million ft gas.

East Central Texas Wildcats

COMPLETION

Company, Well and Location	Initial Production Bbls.	Depth
Bowie County—		
Mission Oil Co. W. H Nelson 1-A (Nancy Dycus sur)	*	2860

DRILLING REPORT

BOWIE COUNTY—Geo. B. McCullough & Roell's W. R. Williams 1, (L. M. Rice sur)

spd and sd. Williams et al's Daulby 1, sd 2050 ft. Delaney Oil & Gas Co.'s Rochelle 1, (Collin McKinney sur) pull liner 2290 ft.

FALLS COUNTY (Kosse District)—C. W. Harrison et al's J. W. Preston 1, (H. Anderson sur) sdtr drill stem 2915 ft.

FANNIN COUNTY—Lester Pet. Co.'s S. D. Graves 1, (Wm. Hutchins sur) testing 2285 ft.

FRANKLIN COUNTY — Marshall & De-Genther's Swanner 1, (Hanks sur) sd for cas 1800 ft.

HENDERSON COUNTY—Fred E. Haynes et al's E. G. Bounds 2, (Henry Jeffreys sur) dr 2000 ft.

HOPKINS COUNTY—Gulf Production Co.'s W. J. Davis 1, (Jas. Clark sur) rigging up. Bar-Tex Drilling Co.'s C. H. McClure 1, (D. Waggoner sur) rig. Stough & Potts' J. R. Fitzgerald 1, (John Binnion sur) dr 1545 ft. C. A. Kelsey et al's Addie Brooks 1, (D. Dowdle sur) fsh 1825 ft.

HUNT COUNTY—Gulf Production Co.'s M. E. Alexander 1, (E. Tidwell sur) steel dk; W. B. Bryan 1, (Jas. Cole sur) lcn.

KAUFMAN COUNTY—Marland Oil Co.'s G. W. Kelley 1, (Green Lee sur) Austin chalk from 2442 to 2879 ft; top Woodbine 3495 ft, dr in Woodbine sand 3535 ft. Germany et al's W. S. Kirby 1, (S. Edens sur) ready to abn dr 3200 ft.

LAMAR COUNTY — Interstate Oil Co.'s Ben Haynes 1, (Larkin-Rattan sur) steel dk.

NAVARRO COUNTY—Bankers Trust Co.'s McCormick 1, (18 miles NW of Corsicana) sd 1829 ft. Patrick & Ilseng et al's W. L. Roberts 1, (Jos. Mayor sur) sd 1740 ft. Elliott & Nicolle's D. J. Westbrook 1, (Henry A. Horn sur) spudding. Sun Oil Co.'s Earnest Swink 1, (S. Richland dist.) dr 1500 ft. Gilbert Johnson et al's J. W. Greer 1, (G. Rushian sur) sd for water 3500 ft.

RAINS COUNTY—Mrs. Ferguson & Short Bros' W. D. Peeples 1, (J. A. Tibbles sur) spd and sd.

RED RIVER COUNTY—Johnson Pet. Co.'s Antone & Worley 1, (Robt. Gamble sur) dr in lime 3545 ft.

TITUS COUNTY — Magnolia Pet. Co.'s George Antone 1, (M. V. Delgado sur) water trouble 1235 ft.

VAN ZANDT COUNTY—Porter-Holmes & Frank Buttram's J. T. Dunbar 1, (Van Sickle sur) testing 3470 ft.

WOOD COUNTY—Golden Oil Co.'s J. D. Adrian 1, (Hallmark sur) sd 3505 ft.

Central West Texas Wildcats

BROWN COUNTY—M. T. Anderson-Moore et al's Wheeler 1, sd for shot 2790 ft. Canyon Oil & Gas Co. et al's Ellsberry 1, dr 600 ft. Gillman et al's Newton 6, rig. Honea et al's E. DeBusk 2, sd 2300 ft. Moore & Wilson's Williams 1, sd 1225 ft. McMurray et al's Newton 2, machine. New Era Oil Co.'s Prather 3, dr 810 ft. Omaha Southern Oil Co.'s G. B. Gaines 2, sd 1840 ft. Stone & Co.'s Gunn 2, dr 1000 ft. T. B. Slick et al's Chambers 1, dr 2400 ft. D. B. Thomas et al's Bohara 1, sd 2410 ft. Ward Oil Co.'s Windham 1, dr 990 ft. Williams et al's H. A. Newton 1, spd and sd.

CALLAHAN COUNTY — Byron-Union Oil Co.'s Hennessey 1, dd, sd 4405 ft. Chas. Dutton et al's Cathey 5 & 7, rigs; Harwell 1, sd 800 ft. Hickey et al's E. L. Findley 2-A, rig. Junior Oil Co.'s A. L. Huntington 1, sd 2280 ft. Kellogg Drilling Co.'s Snyder 1, dr 2550 ft. A. G. McMath et al's Isenhower 1, spd and sd. O'Donnell et al's Cathey 1, rig. Pope-Wilson & Pennant Oil & Gas Co.'s W. B. Bryson 4, dr by tools 2060 ft. L. D. Prewitt et al's W. W. Crane 1, sd 1560 ft; Geo. T. Crane 1, dr 1630 ft; Crane 2, dr 900 ft. Seaboard Oil & Gas Co.'s Isenhower 2-A, dr 560 ft.

JOHNSON COUNTY — Culberson-Wyley & Dunlap's A. B. Pullen 1, (T. S. Roberts sur) dr 1275 ft.

PALO PINTO COUNTY—Ed. S. Britton & E. B. Ritchie's Strawn Coal Co. Fee 3, dr 1910 ft. Cameron & Anderson's W. O. Pollard 2, dr 400 ft. J. D. Cranford et al's L. Smith 1, dr 660 ft. Dittman et al's Bigler 1, sd 3680 ft. Hall et al's Chenault 1, sd 715 ft. Hughes et

A NEW ELECTRIC HOIST
(Portable)

Sullivan Electric Hoist Single Drum

Sullivan engineers have designed a new portable hoist, electric motor driven. It is similar in power, size and adaptability to the Sullivan "Turbinair" Hoists which have become so popular, and both single and double drum models are available.

Sullivan Electric Hoists have 6½ H.P. motor, mounted in a tight casing **inside the drum.** Reduction gears and bearings are enclosed and splash oiled. Ball and roller bearings throughout.

You can hoist a ton vertically on single line, or pull a 50-ton car on level track. The double drum hoist is compact and easy to handle for two rope jobs such as boom derrick work or car spotting.

If you want to reduce your light hoisting and haulage costs, try these new electric units.

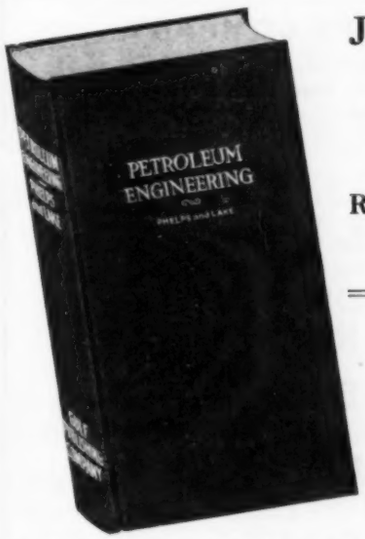
Electric Hoist Dimensions

	1 Drum	2 Drum
Length, inches	29	38
Width, inches	15	15
Height, inches	19¼	19¼
Drums, length, inches	8¼	6¼
Drums, diameter, inches	11⅛	11⅛
H. P.	6½	6½
Capacity, lbs.	2000*	2000*
Speed at Max. Load, ft. per Min.	110	110‡
Drum Rope Capacity, ft. each	500	250
Weight, pounds	450	780

* For Vertical lift.
‡ Tailrope drum, 160 ft.

Ask for Catalog 4276-E

SULLIVAN MACHINERY CO.
122 So. Michigan Ave., Chicago



JUST OFF THE PRESS

PETROLEUM ENGINEERING

—*By*—

ROBERT WILLIAM PHELPS *and* FRANCIS WILBUR LAKE,
Petroleum Engineers

The essential portion of the petroleum industry, that of bringing the petroleum to the surface, is accomplished by the men in the field, whose work is greatly facilitated by the application of pertinent technical data. It was for the purpose of offering this data in practical form that this book was written. This book presents in clear terms the relation between the basic theories and laws of geology and those of petroleum geology, and their application in the occurrence and extraction of petroleum from its natural reservoirs, through to the economic phase of the industry; together with many tables and alignment charts which are applicable to petroleum engineering.

561 pages, fabrikoid, postpaid $5.00

— SEND YOUR ORDER TO —

THE GULF PUBLISHING COMPANY
P. O. BOX 1307 HOUSTON, TEXAS

TRADE MARK
KEYSTONE
REGISTERED U. S. PATENT OFFICE

Improved Deep Well Rig

EMBODIES THESE VALUABLE FEATURES

Friction Tool Hoist—Casing Reel—Indestructible Steel Sills—Keystone Patented Spudding Device—V-Friction Brakes, Patented Babbitted Bearings throughout.

This machine is new—modern, complete, the product of an old and established concern. It is backed by 35 years of experience in the manufacture of portable drilling rigs and a world-wide reputation.

We are building three sizes: No. 27, for 2500 feet; No. 32, for 3000 feet; and No. 35, for 3500 feet depth.

Machines can be seen in various parts of the Kansas, Oklahoma and Pennsylvania fields. Let us wire you where to find one.

BULLETIN 302 and prices on request.

KEYSTONE DRILLER CO.
BEAVER FALLS, PA.
Branch Office and Plant
Joplin, Mo.

Boiler Tubes

Charcoal Iron Lapwelded Steel

"Avoid frequent tube replacements by using our charcoal iron boiler tubes assuring long tube life and low ultimate cost under adverse water conditions."

THE TYLER TUBE & PIPE COMPANY
WASHINGTON, PA.
Texas Stock—Harrisburg Pipe & Pipe Bending Co. of Texas, Houston, Texas.

OIL FIELD LUMBER

SPECIALIZING IN OIL OPERATORS NEEDS
96 Ft. AND 112 Ft. DERRICKS
STANDARD RIGS
FOR BOTH
ROTARY AND CABLE TOOL
Drilling
STEEL DERRICK FOUNDATIONS
TANK COVERS FOR STEEL AND EARTHEN STORAGE
ENGINE FOUNDATIONS
LARGE TIMBERS IN PINE, FIR AND OAK
Stocks in HOUSTON, GOOSE CREEK, WEST COLUMBIA and at SAWMILLS

Special Quick Service in Texas and Oklahoma

Robertson-MacDonald Lumber Co.
General Offices: 215 Humble Building.

We will furnish on request Specifications, compiled by high grade experienced rig builders, of derricks, standard rigs and oil field woodwork construction in general use in the various producing fields.

al's Belding 1, dr 2680 ft; Weldon 2, dr 2895 ft. Little Caddo Synd.'s Massie 2, lcn. Moore & Sneboldt's Stuart et al 1, dr 500 ft. McKinney et al's Marsden 1, sd 465 ft. S. W. Manning et al's R. Hitson 1, sd 3675 ft. Phillips et al's Stringer 1, dr 1275 ft. Phillips & Graham's J. A. Caudill 1, sd 3800 ft. Pender Prod. Co.'s Slemmons 2, dr 3315 ft. B. H. Talbert et al's Slimp 1, sd 1105 ft. Wickens et al's Williams 1, dr 1780 ft.

PARKER COUNTY — G. E. LaBeaume (Trustee) B. C. Evans 1, (2 miles S of Whit) dr 200 ft.

SOMERVELL COUNTY—Glenrose Oil & Ref. Co. et al's J. R. Buzan 1, (4¼ miles SW of Glenrose) sd 4000 ft.

BREWSTER COUNTY—Tesnus Oil Corp.'s A. S. Cage 1, sd 2585 ft. Brewster Oil Corp.'s W. H. Kokernot 1, fsh 2535 ft. Portland Oil & Gas Co.'s State 1, sd 3050 ft. Nine Points Oil & Gas Co.'s Peralto et al 1, sd 3060 ft. Green Valley Oil Corp.'s W. A. Wilson 1, sd 1800 ft; Wilson 2, spudding.

COKE COUNTY—John Sward et al's J. R. Mims 1, materials. Mexia-Equitable Oil Co.'s W. H. Hodges 1, sd 2500 ft.

CONCHO COUNTY — Dome Prod. Co.'s Mrs. C. M. Hartgrove 2, dr 150 ft. Schultz Oil Co.'s W. O. Schultz 1, sd 3225 ft.

CRANE COUNTY — Texas Development Co.'s Jax Cowden 1, sd 2650 ft; Cowden 2, lcn.

CROCKETT COUNTY — Crockett Drilling Synd.'s Robt. Massey 1, sd 1755 ft. World Co.'s L. P. Powell 1, sd 1310 ft. Seaboard Oil & Gas Co.'s University 1, lcn. Peer Oil Corp.'s University 1, (Sec. 14, Blk. 50) lcn.

CULBERSON COUNTY—David Flood et al's McAlpine & Grisham 2, lcn. J. D. Wesner et al's Mack Sayles 1, sd 3105 ft.

DAWSON COUNTY — Lamesa Oil Co.'s John Burns 1, sd 2150 ft.

ECTOR COUNTY—Farmers Oil Co.'s Andy Newham 1, sd 1400 ft.

FISHER COUNTY—Pyron Oil Co.'s J. S. McCall 1, sd 3120 ft.

GLASSCOCK COUNTY—Gulf Prod. Co.'s L. S. McDowell 1-C, sd for new boiler, td 2625 ft. Cushing Ranch Drilling Assn.'s W. H. Sparkman 1, sd 1950 ft. Ledger Co.'s C. I. Brunson 1, sd 3520 ft.

GARA COUNTY—B. V. Blackwell et al's J. M. Boren 1, sd after shot 2443 ft. Mitchell-McDonald & Jewell's Clyde Connell 1, sd for cas 750 ft.

HUDSPETH COUNTY—Boole Oil Assn.'s Gardner et al 1, sd 1540 ft. Hueco Basin Oil Co.'s University 1, sd 2560 ft. Wm. Loftus et al's Minnie Veal Slaughter 1, dr 1590 ft.

HOWARD COUNTY—Big Springs Oil Co.'s Mable O. Quinn 1, sd 3640 ft.

IRION COUNTY—Orient Oil Co.'s J. D. Sugg 1, (Sec. 27, Blk. 2, H&TC sur) sd 1090 ft. Virginia-Texas Pet. Co.'s Tom Green Co. School Land 1, dr 200 ft.

JONES COUNTY—Anson Oil & Dev. Co.'s C. B. Brown 1, sd 1855 ft. C-H Oil & Dev. Co.'s J. A. Cullom 1, sd 3500 ft.

KARNES COUNTY—Alidor Oil Co.'s A. W. Hyatt 1, sd 1156 ft.

LOVING COUNTY—P. V. Pet. Co.'s N. E. Chapman 1, fsh tools 715 ft. Ramsey Prod. Co.'s Russell 1, sd 4485 ft; Russell 2, sd 810 ft.

MITCHELL COUNTY—The California Co.'s Clark 1, dr 2840 ft; H. C. Miller 5, dr 2810 ft; W. H. Abrams (T&P) 7, swabbing 30 bbls oil 3030 ft. M. E. Eddleman et al's A. C. Gist 1, dr by tools 2880 ft. Sloan Oil Co.'s H. C. Miller 3, dr 1040 ft. Chal. Daniel et al's W. D. Kynard 1, rig. I B. Humphreys et al's P. C. Colemain 1, co 3200 ft. Morrison-Rowe Lease Synd.'s W. D. Kynard 1, co to pump 3045 ft. J. T. Harris et al's W. C. Brown 1, sd 370 ft; Brown 2, sd 205 ft.

PECOS COUNTY — Plymouth Oil Co.'s Perry Ranch 1, rigging up. Arkansas Fuel Oil Co.'s Blackstone & Slaughter 1, dr 490 ft. Transcontinental Oil Co.'s Sherbino 1, dr 940 ft. Trans-Pecos Oil Co.'s H. L. Thomas 1, sd 1830 ft; W. W. Turney 1, sd 2900 ft; Bennett 1, sd 1240 ft; Troy-Johnson 1, sd 2965 ft. Southern States Lease & Prod. Co.'s J. M. Odem 1, sd 1205 ft.

REAGAN COUNTY — Arkansas Fuel Oil Co.'s University 1, (Sec. 9, Blk. 6) fsh cas 3355 ft. Big Lake Oil Co.'s University 3, dd, ur cas 3080 ft; University 14, (Sec. 1, Blk. 2) dr 2870 ft; University 15, (Sec. 12, Blk. 2)

NATIONAL SERVICE IS UNEXCELLED

Complete stocks of National and IDEAL Products are carried at all stores, one of which is within easy access of your operation wherever located in the established Oil and Gas fields.

THE NATIONAL SUPPLY COMPANIES

Say you saw it in The Oil Weekly

BACK in the years when wells were drilled more to obtain fuel for illuminating than for automobiles, you men who are now called "old timers" put through your work with tools probably made from Colonial.

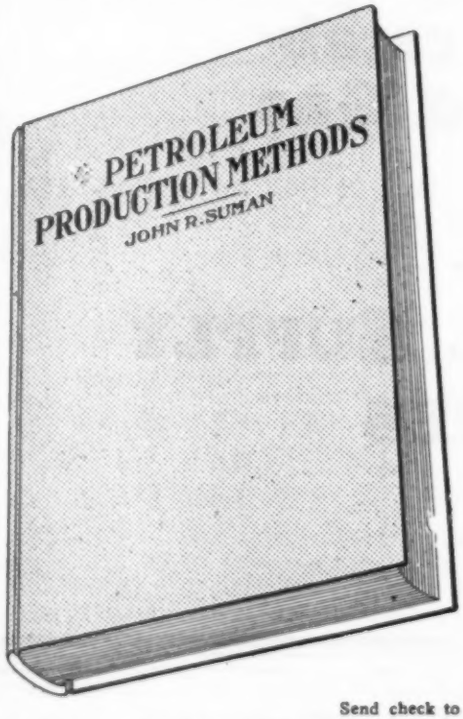
From that day to this, these men who know Tool Steel have maintained their allegiance with this product of the Colonial mill.

As Colonial Well Bit and Jar Steel served then, it serves now—the same high unvarying quality always. In your tools it means service such as only high grade Tool Steel can give.

Colonial Steel Company

Pittsburgh Boston New Haven New York Cleveland Cincinnati Detroit
Chicago St. Louis Denver Salt Lake City Wallace, Idaho
Edw. L. Soule' Co., San Francisco

Petroleum Production Methods—



By John R. Suman. Third Edition, completely revised and brought down to date. Just off the press. Eighty pages of new material added. Among many others the following new features are especially worth noting: Improved Rotary Drilling Methods—Core Drilling, latest "dope" brought down to date. Mud-Laden Fluid—newest features fully discussed. Latest Drilling Devices fully described — The "Make and Break" rotary. Collapsible bits and other new bits. Weight indicators. Diamond Drilling for Oil—Exploration and Exploitation.

PRICE $6.00 POSTPAID

Send check to

THE GULF PUBLISHING COMPANY

P. O. Box 1307 Houston, Texas

changing to standard rig 2824 ft. Brandon-McCamey et al's University 1, (Sec. 27, Blk. 2) dr 600 ft. B. H. Cogsdell et al's University 1, (Sec. 23, Blk. 8) spd and sd. Crockett Drilling Synd. et al's University 1, (Sec. 9, Blk. 9) sd for cas 2930 ft. The California Co.'s University 1, (Sec. 13, Blk. 8) dr 1690 ft. H. S. Grayson et al's University 1, (Sec. 28, Blk. 8) dr 400 ft. J. K. Hughes et al's University 1, (Sec. 5, Blk. 9) rigging up rotary. P. H. Hoffman et al's University 1, (Sec. 23, Blk. 11) spd and sd. Mid-Kansas & Transcontinental's Hughes-Mason 1, (Sec. 1225, E. L. & RR. sur) dr 1115 ft. Simms Oil Co.'s Sawyer Cattle Co. 1, (Sec. 12, S. A. Glass sur) rigging up. J. T. Stover et al's University 1, (Sec. 34, Blk. 11) rigging up. Texon Oil & Land Co.'s University 1, Group 2, (Sec. 22, Blk. 9) dr 4005 ft; University 2, Group 1, (Sec. 36, Blk. 9) dr 2880 ft; University 3, Group 1, (Sec. 36, Blk. 9) showed oil and gas 2454 ft, dr 2500 ft; University 4, Group 1, (Sec. 1, Blk. 8) rigging up. Transcontinental Oil Co.'s University 1, (Sec. 10, Blk. 1) dr 2955 ft. University Oil Co.'s University 1, Sec. 17, Blk. 10) dr 2180 t. C. J. Wrightsman et al's Ingham 1, (Sec. 39, Blk. "C" & S. V. Ry sur) sd for cas 305 ft.

REEVES COUNTY — Dixieland Oil Co.'s Oates 2, sd 4505 ft. Dome Drilling Co.'s Ira J. Bell 1, sd 585 ft.

RUNNELLS COUNTY—Subscribers Assn.'s Russell-Giesezke 1, sd 2876 ft.

SCURRY COUNTY—Camp Springs Oil & Ref. Co.'s W. Y. Jones 1, sd 600 ft; J. O. Quinn 1, sd 3570 ft; L. E. Howell 1, lcn. Hermleigh Oil & Gas Co.'s J. W. Burris 1, sd 2965 ft. Stanton Oil & Gas Co.'s J. W. Riley 1, sd 2500 ft.

STERLING COUNTY — Ford & Cogsdell's W. L. Foster 1, dr 910 ft. Chicago-Texas Oil & Gas Synd.'s D. C. Durham 1, sd 1427 ft; Durham 2, sd 1406 ft. Co-Operative Lease & Dev. Co.'s Douthitt 1, dr by drill stem 1950 ft. Fidelity Oil Co.'s G. R. Hull 1, sd 1708 ft. John W. Sward's L. T. Clark 1, rig.

STONEWALL COUNTY—Elder Nance et al's Ward Estate 1, sd 1795 ft.

TAYLOR COUNTY — Sanger Oil & Ref. Co.'s McClure 1, lcn; S. P. Hollingshead 1, sd 1710 ft; Tom Sawyer 1, sd 2700 ft

TERRELL COUNTY—R. E. Dunn et al's Fee 1, machine. Southwest Texas Oil & Gas Co.'s Fee 1, sd 3515 ft.

UPTON COUNTY — Big Mesa Oil Co.'s University 1, (Sec. 17, Blk. 3) spudding. W. P. Morris et al's H. M. Halff 1, spd and sd. Bell & Regan et al's University 1, (Sec. 2, Blk. 4) sd for cas 315 ft. Suggs & Chancellor et al's University 1, (Sec. 8, Blk. 4) spd and sd. Virginia-Texas Pet. Co.'s University 1, (Sec. 14, Blk. 15) set 12½ cas 877 ft, dr 1410 ft.

VAL VERDE COUNTY—East Del Rio Oil Co.'s Russell & Weathersbee 1, sd 2605 ft. Independent Operators' Whitehead 1, sd 2155 ft. Joe W. Morris et al's Moore Estate 1, sd 2280 ft. Re-Clamation Oil Prod. Synd.'s J. B. Moore 1, sd 2575 ft. Hodges & Wright's B. S. Harrison 1, dr 1080 ft.

WARD COUNTY—Cook & O'Brien's G. W. O'Brien 1, sd 1175 ft.

Coastal Wildcats

ANGELINA COUNTY—Ferdinand Heine's Heine No. 1, J. H. Ellison sur, 170 ft to W and 150 ft to S line, td 536, installing new pump.

BRAZORIA COUNTY—D. F. Bryan Prodution Co. & Hamm et al's Bryan 1, at Freeport, J. G. McNeel sur, dr below 3075 ft. Hamm et al's Bryan Estate 1, Damon Homestead, T. H. Bryan Estate, bailing, td 1500 ft.

BRAZOS COUNTY — Bryan Pet. Co.'s Watthuber 1, 2 miles S College Station, C. Burnett sur, dr below 2550 ft.

FORT BEND COUNTY—Gulf Prod. Co.'s Moore 2, Burknap sur, 1050 ft N No. 1, dr below 320 ft. Neilan Oil Co.'s B. Frederick 1, 4½ miles W Rosenberg, sec 19, S. George sur, NW cor, dr below 600 ft. Pathfinder Oil Co.'s Davis Estate 5, sec 101, Philo-Fairchilds sur, S No. 4, abn in gyp, td 850. James W. Rich et al's Moore-Hager 2, at Big Creek, 300 ft NE No. 1, SE side of dome, ready to spud

in. Rycade Oil Corp.'s Nash 2, Alsberry sur, 400 ft E and 600 ft S of NW cor of Nash's 486 acre tract, 28 deg NW and 4650 ft NW No. 1, core showing water sand at 1754 ft; Nash 3, 1000 ft W No. 1, dr below 696 ft. The Texas Co.'s Fee 1, at Big Creek, 2100 ft NE of W cor and along NW line, 50 ft SE at right angles from Texas Co.'s N line, dr below 2853 ft.

GALVESTON COUNTY—Gulf Prod. Co.'s George E. Smith 1, at High Island, sd.

GRIMES COUNTY—L. F. McCausland et al's Dodd 1, 3 miles W Iola, Timothy Jones league, 150 acre tract, Dodd farm, dr below 2780 ft.

HARDIN COUNTY—Kirby Pet. Co., Munson & Anderson et al's Hodges 3, near Batson, Hodges 202 acre lease, set perforated pipe at 2909 ft, bailing.

HARRIS COUNTY — Dome Dev. & Pet. Co.'s Schneider 1, Schneider farm, John D. Taylor sur, blk. 41, sd.

JACKSON COUNTY—Vanderbilt Pet. Co.'s Seliner 1, 4 miles N Vanderbilt, C. W. Hall sub-division of Harwood-Burns ranch, sd at 2720 ft. Jackson County Oil Synd.'s Drushell 2, reported making 40,000 cu. ft gas.

JEFFERSON COUNTY—Houston Oil Co.'s Gulf-Pipkin 1, Pipkin and Davis sur, sdtr at 2818 ft, td below 3007 ft; Sun-Pipkin 1, Pipkin and Davis sur, dr below 3260 ft. Paggi Bros.' Miller 1, N. F. Lazerine league, 300 ft W of Public road, 1000 ft N of S line of league, dr below 2080 ft.

LIBERTY COUNTY—The Texas Co.'s Fee 1, 2000 ft NW Ott 1, dr below 1235 ft.

MATAGORDA COUNTY — Marland Oil Company of Texas' Murphy 1, Jeremiah Dwyer sur, dr below 3880 ft. Rycade Oil Corp.'s Gray 1, 150 ft N of N line of Texas Co.'s 20 acre lease, 150 ft W of E line blk 2, setting whipstock at 3421 ft to sdtr, td below 4227 ft; Gray 2, 600 ft N of S line and 1400 ft W of E line blk. 2, rigging up.

MILAM COUNTY—Sinclair Oil & Gas Co.'s Smith 1, 12 miles SE Cameron, Smith-Turney structure, 7000 acre blk, 300 ft N and 300 ft W of NW cor R. N. Turney 162 acre lease, land of H. F. Smith, Jr., dr below 3048 ft.

WHARTON COUNTY — Gulf Prod. Co.'s Cloud 2, 1400 ft E No. 1, rigging up; Felder 3, 20 ft to W and 1735 ft to N line blk. 3, S. Ingram sur, rigging up.

Oklahoma Wildcats

ALFALFA COUNTY—McGuinnis & Ward's Watts 1, C NE SW 21-27-10w, sd 3240 ft. Armstrong, Henley & Piffles's Turnbull 1, C NW SE NW 25-24-11w, dr 2350 ft.

ATOKA COUNTY — McPhearson et al's Wild 1, SWc NW 7-2-9, co 4323 ft. Henson et al's Dabney 1, C SE NW 17-4-11, sd 2260 ft. J. P. Torrance et al's Fee 1, SWc NE 1-2-9, sd 2235 ft. Wapanuka Dev. Co.'s Underwood 1, C W L SE SE 28-2-9, sd 1343 ft.

BLAINE COUNTY—Meyers et al's Chronister 1, SEc NW NW NE 7-18-15w, sd 965 ft. Thompson's Dickerman 1, C SE SE SE 26-15-12w, sd 3213 ft. Okomo Oil Co.'s Ekleman 1, SWc 21-13-10w, sd 2610 ft.

BRYAN COUNTY.— Alexander's Hampton 1, SEc NE 26-7-11, sd 1400 ft.

CANADIAN COUNTY — Thos. Revelle's Dawson's 1, SEc 34-13-9w, fsh 2845 ft. Carroll et al's Setter 1, SEc 2-13-8w, sd 110 ft.

CLEVELAND COUNTY — Carr Oil Co.'s Holland 1, NEc SE 31-10-4, sd 2620 ft.

CUSTER COUNTY—Hoover Oil Co.'s No. 1, NWc SE 34-13-14w, fsh 2510 ft. Magnolia Pet. Co.'s Cutfinger 1, NWc SE 17-13-14w, no report.

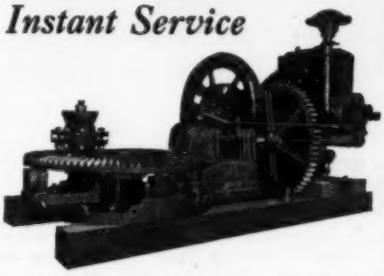
COAL COUNTY—Bearman's Payte 1, SWc NW NE 32-29, sd 2780 ft.

GRANT COUNTY—Embry et al's Edwards 1, C SE SE NW 20-26-4w, sd 1000 ft. Midwest & Gulf's Moon 1, NEc NW 8-27-8w, sd 2490 ft. Phillips Pet. Co.'s Ridings 1, NEc SE NW 29-29-4w, dr 4667 ft. Frank Traver et al's Fuss 1, SWc NW NW 3-27-4w, sd 1020 ft.

GREER COUNTY—Neal et al's Johnson 1, SEc NE NW 3-7-22w, dr 1245 ft. Boss &

LIGHTNING
OIL FIELD SUPPLIES
PUMPING POWERS, JACKS, STUFFING BOXES, ETC.

Instant Service



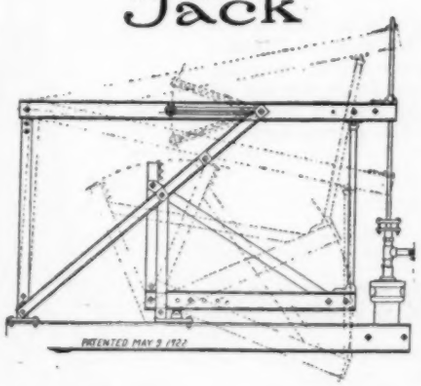
More Power—Less Vibration
They Are Correct in Design
Husky Enough to Do the Job Right

The reliable eccentric motion does away with jerky lines.
Built in three sizes:
No. 4—Belt Drive, weight 6500 lbs. For deep wells.
No. 2—12 H. P. engine, weight 4600 lbs.
No. 1—6 or 8 H. P. engine, weight 3200 lbs.
Turntable gear is easily removable and having a broad face, coarse teeth and large diameter will stand up to the heaviest loads.
SHACKLE LINES SET LOW TO THE GROUND (13 in.) ELIMINATE EXCESSIVE STRAIN. QUICKLY INSTALLED
Oil Field Supply Dept.
KANSAS CITY HAY PRESS COMPANY
Kansas City, Mo.

WATER SUPPLY PUMPS
NOVO TYPE W
Duplex Pumping Outfits
Deliver water long distances.
Carried in stock
Houston
R. B. EVERETT & CO.
Phone Preston 1437 - 7570

The Polished Rod *can't* Bend

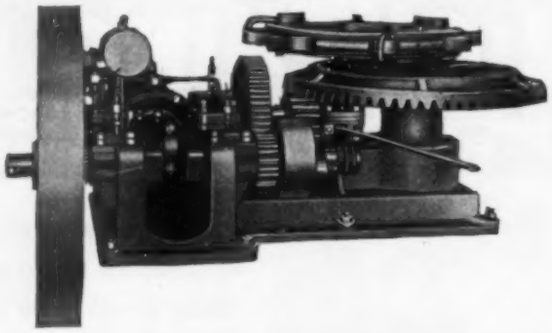
The Jensen Straight Lift Jack



The Jensen Jack
lifts it
Straight up,
and lowers it
straight down
without any strain or excessive wear on the Rod, or on the Stuffing Box Rings, or on anything else.

The Straight Lift makes a five-foot stroke practical. Made in No. 2 and No. 3 sizes.

Jensen Bros. Mfg. Co.
Nowata, Oklahoma



"THE SPENCE"

A combined gas engine and single eccentric pumping power, with a 10½-H.P. Gas engine, positive governor, gravity feed lubrication and Wico ignition for gas or gasoline equipment. In refinement of construction and efficiency and simplicity of operation this is the best power of its kind on the market. Will satisfactorily operate four two-thousand-foot wells. Price, $650.00.

We also manufacture the Reliable Combined Engine and Power, similarly constructed and fully equipped for gas or gasoline with Wico Igniter of which over one thousand are in successful operation. Will pull a load equal to four twelve-hundred-foot wells. For all practical purposes as satisfactory and efficient as "The Spence" Power. Price, $450.00.

Manufactured and Sold by

THE SPENCE MACHINE CO.

Parkersburg, W. Va.

EVERYTHING

FOR THE OIL WELL

Operators in the oil fields in this territory have found that the many facilities we maintain assure them at all times

A DEPENDABLE SOURCE OF SUPPLY

Peden supplies have had a large part in the development of the oil fields of Texas. With our years of experience in meeting the requirements of these fields we are in a position to serve best. Send us your orders or write today for prices and information.

"We Ship Quick"

The Largest Supply House in the Southwest

PEDEN IRON & STEEL CO.

HOUSTON SAN ANTONIO
FT. WORTH SHREVEPORT

Terrill's Van Victor 1, C SW SW 4-3-22w, dr 2350 ft.

HUGHES COUNTY — Mathers & Skelly's McClain 1, C SW SW 4-5-11, r 3026 ft. Dixie Oil Co.'s Irvine 1, SW NW SE SE 18-8-10, dr 3040 ft.

JEFFERSON COUNTY—Connell Oil Co.'s Anderson 1, SEc NE 31-4-8w, dr 1402 ft. Landis et al's Standfield 1, SEc 33-7-6w, dr 1800 ft. Roy Johnson's Mullen 1, NEc NW 9-4-4w, dr 2920 ft. Barker et al's Major 1, C SE SW 34-5-6w, spd and sd. Godley Oil Co.'s Woodworth 1, C NE NW 36-5-4w, sd 495 ft. Lugg et al's No. 1, C SE NW NE 3-7-7w, dr 2670 ft.

JOHNSON COUNTY — Washita O. & G. Co.'s Trootes 1, C SE SE 7-4-4, sd 2180 ft. United "8" Oil Co.'s Hodlen 1, NWc SW NW 36-5-6, 2330 ft.

KAY COUNTY—Day Oil Co.'s Vandatta 1, SWc NW 8-26-2w, dr 3170 ft, hfw.

KIOWA COUNTY—Connor et al's No. 2, NEc NW NW 34-7-16w, run 10-inch 976 ft. Aubyme Oil Co.'s No. 1, SWc NE 3-7-17w, sd 2400 ft. Alcorn Oil Co.'s No. 1, NEc SE SE SW 13-7-16w, sd 1350 ft.

LINCOLN COUNTY—Sun Ray Oil Co.'s Gallagher 1, C N L SE SE 18-13-5, sd 3825 ft, hfw. P. & R. Corp.'s Hainzig 1, SWc NW SW 14-13-6, moving in rotary rig, td 2135 ft. Douglas Oil Co.'s Ewing 1, NWc 7-13-3, sd 2965 ft. J. C. Cook's Richardson 1, SWc NW SW 8-12-5, dr 2330 ft. Eugene Costa's Dodrill 1, SEc NW 26-12-2, dr 2460 ft. Wilcox O. & G. Co.'s Smith 1, SEc SW NE 12-12-3, dr 1250 ft.

LOGAN COUNTY—Buford-Brim Oil Co.'s Newman 1, NWc NW 32-19-3w, set cas at 2318 ft. Oklahoma Drilling Co.'s Johnson 1, SEc SW 36-15-2w, sd 1716 ft. Franklin Oil Assn.'s Moore 1, NWc SE SE 35-17-4w, dr 2090 ft. McMunn & Nixon's Fields 1, SWc NE SE 35-17-4w, rig. Haley & Pioneer Pet. Co.'s Quair 1, SWc SE 33-18-3w, rig rebuilt. Pluto O. & G. Co.'s Lair 1, C S L N½ SE 28-16-1w, fsh 150 ft. Gilliland Oil Co.'s Ohm 1, C NW 5-19-2w, top sand 2831 ft, nice show. Magnolia Pet. Co.'s Pritchard 1, NWc 23-15-1s, r 2875 ft.

LOVE COUNTY — Driller Syndicate Oil Co.'s Wilson 1, NWc SE 11-7-2w, sd 2830 ft. Simms Oil Co.'s Starritt 1, SEc NE SE NE 26-6-3w, run cas to 2332 ft.

MAJOR COUNTY—Texas Prod. Oil Co.'s Basin 1, SWc 6-22-14w, spd and sd. Bradstreet Oil Co.'s Ratcliffe 1, C SW 9-22-9w, sd 3055 ft. Frantz & Slick's Gray 1, C NW 36-21-11w, sd 1000 ft.

PONTOTOC COUNTY — Harper et al's Dener 1, NWc SE SE 19-6-7, sd 2835 ft. Smith et al's Norris 1, SWc SE 34-4-6, sd 2430 ft. Riverside Oil Co.'s McFarland 1, NWc NE NW 4-5-5, sd 650 ft. C. J. Wrightsman's Floyd 1, SWc NW NE 24-4-4, casing trouble 2720 ft. Galloway et al's Hays 1, NEc SE NW SW 13-3-6, sd 1160 ft. Craig et al's Starritt 1, NWc NE 5-4-5, sd 600 ft. Brinson et al's Brown 1, SEc SW SE 32-5-5, dr 577 ft.

OKLAHOMA COUNTY — Firestone Oil Co.'s School 1, NWc SE 36-11-3, dr 4235 ft.

POTTAWATOMIE COUNTY — Ossie Oil Co.'s Howell 1, SWc NE 17-10-2, dr 3140 ft. Davis Detrick's McGathey 1, SEc 10-6-2, sd 3850 ft. H. C. Guinnup et al's Floyd 1, SWc SE 12-11-3, sd 3670 ft. North American Oil Co.'s Madgett 1, NWc 25-10-4, sd 460 ft. Maud Oil Products Co.'s Yinson 1, NEc SW 18-7-4, sd 2935 ft. McMann Oil Co.'s Neghan 1, SWc NW 19-7-4, sd 100 ft. Day Oil Co.'s Bell 1, SEc NW NE 9-5-3, sd 4021 ft to abn. Halmond Osmond et al's Fiddler 1, SEc NW 4-5-5, sd 545 ft.

ROGERS MILLS COUNTY—Twin Hills Oil Co.'s McClure 1, NWc 15-16-26w, dr 3640 ft. Trio Oil Co.'s No. 1, SEc NW SW 3-13-26w, sd 3060 ft for cas.

SEMINOLE COUNTY — Maxwell et al's Charty 1, C NE NW 33-6-6, sd 2100 ft. Link Oil Co.'s Carolina 1, C SE NW 14-6-7, sd 2840 ft. T. B. Slick's Sanny 1, 19-6-7, dr 3550 ft. Wm. McDougall's Dindy 1, C SW SW 30-6-7, sd 3350 ft. R. F. Garland's Farlin 1, C NE NW 6-6-18w, fsh 1390 ft.

WASHITA COUNTY—McCoy et al's Praeters 1, C SW SW NE 9-8-15w, sd 3115 ft.

WOODS COUNTY—Victor Oil Co.'s Van Buskirk 1, SWc SE 10-25-15w, sd 960 ft.

San Antonio District Wildcats

COMPLETION

Company, Well and Location	Initial Production Bbls.	Depth
Jim Hogg County—		
Henne, Winch and Fariss Martinez 4	*	1500

DRILLING REPORT

ATASCOSA COUNTY—DeLange-Eiser Co.'s Tom 2, dr below 3340 ft.

BEXAR COUNTY—Aviators' Swearingen 1, dk. F. B. Slick's No. 1, dr. White & Hampton's Swearington 1, sd.

DUVAL COUNTY — Co-Operative Drilling Co.'s Dinn 1, sd 2070 ft. Mesquie Oil Co.'s No. 1, setting liner at 2162 ft. Hill-Pierce Corp.'s Martinez 1, dr. Cole Pet. Co.'s No. 5, 69 million cu. ft gasser; 6, dr below 1688 ft; 7, lcn.

GAUDALUPE COUNTY—United North & South Oil Co.'s Glenwinkle 1, dr; 22 Baker, trying to make gas well. Allen Burman's Wade Battle 1, sd 1950 ft. Magnolia Oil Co.'s Nos. 13, dr 1660 ft; 14, dr 2040, ft. Sight et al Springs 1, sd 1400 ft. Ross & Green's W. W. Pryor 1, dr 1700 ft. Jennings et al's Lynch 1, sd 2250 ft. Walhunda Pet. Co.'s Smith 1, sd 2075 ft.

JIM HOGG COUNTY — Simms Oil Co.'s Wood 1, Sur. 84, dr below 800 ft. Texo Oil Co.'s No. 1, Sur. 256, rigging up. Henne-Winch-Farris' Martinez 4, producing 1500 bbls; 5, dr below 1200 ft; 6, dr below 600 ft. Laurel Oil Co.'s Palacious 2, sd 1833 ft. Plateau Oil & Gas Co.'s No. 1, Blk. 15, Sur. 26, dr. Bailey et al's Martinez 1, Blk. 7, Sur. 256, preparing to set cas; J. W. Pippin et al's No. 1, Sur. 51, dr below 1800 ft. Magnolia Oil Co.'s Thompson 1, dr 1960 ft. Weber Oil Co.'s Holbein 4, preparing to test at 2774 ft. Lang et al No. 1, spudded in. Shasta Oil Co.'s Holbein 1, setting 4½ inch cas. O. W. Killam's No. 1, Sur. Blk. 255, dr in; Martinez 1, dk. Witherspoon Oil Co.'s Holbein 1, setting cas; 2, spudded in; 3, dk.

LIVE OAK COUNTY—Grubstake Investment Assn.'s Nichols 3, set cas. Glasco & Fallin's Tip 1, sd 600 ft. Southern Natural Gas Co.'s Nos. 9, dr; 10, lcn. Coquet et al's Hicks 1, dr.

ZAPATA COUNTY — H. J. McMullen's Serapio Vela 1, 2 and 3, lcns. R. K. Bateman et al's No. 1, Sur. 617, dr 1000 ft. Mirando Oil Co.'s No. 16, 307, sd 2020 ft. Killam Interests' No. 1, Sur. 307, set cas at 1664 ft. Hill et al Haynes 1, dr. Panuco Prod. Co.'s Vela, dr below 400 ft.

Kansas Wildcats

BARBER COUNTY—R. B. Brown's No. 1, NWc SW NE 33-30-14w, sd 3720 ft.

BARTON COUNTY — Cheyenne Oil Co.'s Sooy 1, SWc SW 27-18-12w, sd 3525 ft. Haynes et al's No. 1, NWc 21-12-12w, sd 2100 ft. Mountain States Oil & Gas Co.'s No. 1, SEc NE 22-18-13w, fsh 3685 ft. Jasper & Beschka's Schauf 1, SEc NW 11-16-12w, sd 3509 ft. Huffine et al's Smith 1, C NE SW 21-19-12w, bad hole 550 ft.

CLARK COUNTY—Watcham O. & G. Co.'s Morrison 1, SEc NE NE 2-22-21w, set cas 4918 ft.

COFFEY COUNTY — Sunbeam Pet. Co.'s Andrew 1, NWc NE 30-20-15, rig. Manhattan Oil Co.'s Elliott 1, NWc SW 14-33-13, sd 150 ft. Braden Bros.' Beyer 1, SEc NW 13-22-13, spudded.

CLOUD COUNTY—Livingston et al's Murdock 1, NEc 7-6-4w, sd 365 ft.

GEARY COUNTY—Liberty-Texas Oil Co.'s Wright 1, NEc 9-12-6, sd 750 ft. Liberty-Texas Oil Co.'s Foster 1, NEc SW 3-12-6, sd 2000 ft.

GOVE COUNTY—Keyes Bros. & Marine's Unknown 1, NWc SW 23-13-26w, lcn.

GRAHAM COUNTY—Keyes Bros. & Marine's Taxton 1, SEc NW 23-8-24w, dr 1500 ft.

FINNEY COUNTY—Garden City O. & G. Co.'s Wann 1, SEc SE 36-21-30, sd 2890 ft.

When You Choose Your Tankage

Look for the economy of design, the expert workmanship, the serviceable construction and the highest grade materials.

"United gas-tight tanks are of right design, right construction and right materials. They are of heavy plate, tight riveted, tight caulked—and guaranteed GAS TIGHT.

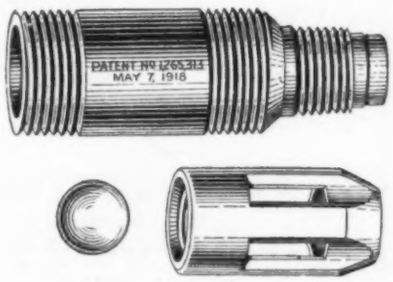
Quotations promptly made without obligation to you

United Iron Works, Inc.

TULSA KANSAS CITY, MO. DALLAS

Tribal Osage Oil Leases at Public Auction, December 18, 1924, By U. S. Government

December 18, 1924, at Pawhuska, Oklahoma, about 30,000 acres will be offered for oil leases in quarter section tracts. Bids will be for bonus in addition to royalties, 25 per cent payable on day of sale, balance in three annual installments, with acceptable security. Within advertised area there are about 9,200 oil wells producing from one barrel to two thousand barrels each, the total daily production for September, 1924, being about 100,000 barrels; also, there are about 150 wells drilling. All lands are now leased separately for gas. Blue print maps of areas advertised, showing tracts producing oil or gas, can be had for fifty cents each, also logs of producing oil or gas wells for twenty-five cents each well. Write U. S. Superintendent, Osage Agency, Pawhuska, Oklahoma, for maps, logs, or other information.



Attention Field Managers and Purchasing Departments

Reduce your tubing jobs by using Ewing Patented Hydraulic Standing Valves, made with regular and oversize balls and seats.

Stocked by all Leading Supply Companies and Made ONLY by

Sour Lake Machine & Supply Company

Sour Lake, Texas

Oil Drillers' Supplies Plus Real Service

We can supply oil field operators with every piece of their equipment; complete rigs—casing—pumping equipment.

Send us your orders or write today for catalog, prices and information. We will give you "right now" service.

ALAMO IRON WORKS
SAN ANTONIO, TEXAS

DO YOU Export, Import, or Coastwise ship Petroleum Products? Refine or Top? Market Fuel Oil?

WOULD YOU Be interested in a site at tidewater for Refinery? Tank Farm Acreage? Low Realty Values? Low Taxes? All Available at Port of Texas City, on Galveston Bay.

Address

TEXAS CITY TERMINAL RAILWAY CO.

G. M. DENT
General Manager
TEXAS CITY, TEXAS

F. W. PARKER
Traffic Manager
TEXAS CITY, TEXAS

Adams Combination Cuff and Standing Valve

Patent No. 1353303

Not necessary to use special cuff on working barrel — simply take a top cuff off of any old barrel and substitute for bottom cuff, then screw hydraulic valve in place.

Made of bronze with steel crown ball and seat.

Has a salvage value.

Sizes 1¼, 2¼, 2¾, 3¼ inches

Manufactured only by

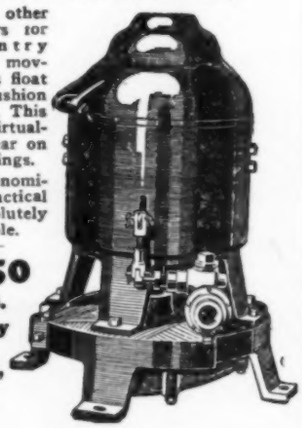
Southern Brass Mfg. Co.
HOUSTON, U. S. A.

Frost VERTICAL Generator
Has Fewer Parts

Unlike other generators for oil country use, the moving parts float on a cushion of steam. This means virtually no wear on the bearings.

It is economical, practical and absolutely dependable.

$250
F. O. B. Factory
Augusta, Kan.



Manufactured by

R-F ELECTRICAL MANUFACTURING CO.

Exclusive Distributors
BECKER SPECIALTY CO.
623 So. Cheyenne Phone 2-2798
TULSA, OKLA.

JEFFERSON COUNTY — Northern Counties' Edwards 1, SEc NW NW 13-8-19, sd 3405 ft.

KINGMAN COUNTY—Hale et al's Graber 1, SWc NW 34-27-7, sd 2543 ft.

LINCOLN COUNTY—Berry & Rosenthals' Lambert 1, C NW 31-12-10w, sd 3175 ft. Amerada Pet. Corp.'s Crawford 1, NEc SW SE 16-11-7w, dr 2745 ft. Equity Oil Co.'s Jellison 1, NWc SE 19-13-9w, dr 2705 ft. Scott & Collins' Stone 1, SEc SW NE 19-11-6w, sd 500 ft.

NEMAHA COUNTY — Nemaha O. & G. Co.'s Meyers 1, NWc 19-3-11, sd 3250 ft.

OSAGE COUNTY—Rodgers & Bittle's Bertha 1, SEc NW 22-17-16, lcn. Mul-Vit Dev. Co.'s Neil 1, NEc NW SW NE 8-17-17, sd 2735 ft. Baker et al's No. 7, C SE SE 3-10-14, sd 260 ft.

POTTAWATOMIE COUNTY—Crawford et al's Stewart 7, C E L SE SE SE 17-9-12, rig; Greishabert 1, SWc SE SE SW 13-9-18, rig; St. Mary 1, SWc 11-1-12, sd 2290 ft.

RICE COUNTY—Stamey et al's Barnes 1, SEc NE 21-20-6w, dr 3100 ft. Jasper & Beschka's Walker 1, SWc NE 10-18-6w, sd 1750 ft.

RILEY COUNTY—Pawnee Oil Co.'s Marks 1, SEc NE NW 26-10-6, sd 1700 ft.

ROOKS COUNTY—Keyes Pet. Co.'s Sandon 1, NWc SW SE 7-8-20w, spudded.

RUSSELL COUNTY — Pomeroy et al's Cooper 1, SEc 33-12-11w, cas 1980 ft. Alcorn Oil Co.'s Seller 1, SEc 36-15-12w, cas 3250 ft.

SEWARD COUNTY — C. T. Dev. Co.'s Woods 1, NWc NE 34-34-34, sd 750 ft. Seward O. & G. Co.'s Selsey 1, NEc NW 2-33-33, sd 2427 ft.

SALINE COUNTY—Thrall et al's No. 1, SEc NE NW 15-15-4w, sd 1010 ft.

TREGO COUNTY—Keyes Pet. Co.'s Walsh 1, NWc SE 5-11-25w, sd 1450 ft; Walsh 2, SWc NE SW 5-11-25w, sd 1550 ft; Davis 1, NEc SW 16-11-24w, fsh 3030 ft.

WABAUNSEE COUNTY—Williams et al's No. 1, NEc SW 9-5-5, sd 3600 ft.

WOODSON COUNTY — Equity Oil Co.'s No. 1, Soloman, SWc NE NW 30-26-17, sd 3340 ft. Herman & Oghisby's Lauber 1, SWc 4-26-14, sd 850 ft. Skelly Oil Co.'s C W L SE SW 13-24-15, spudding.

Arkansas Wildcats

COMPLETIONS

Company, Well and Location	Initial Production Bbls.	Depth
Ouachita County—		
Morgan & Gaughan Morgan 1, 31-15-19	*	2260
Union County—		
Traffic Oil Co. Goodwin 1, 20-16-14	*	3030

DRILLING REPORT

CLARK COUNTY—Southern Drilling Co.'s Barrows 1, 35-10-20, sd 714 ft.

COLUMBIA COUNTY—Ark Fuel Oil Co.'s Hardy 1, 1-19-22, lcn. Hargis et al's Souter 1, 24-17-22, sd 35 ft. Heath Trust's Williams 1, 1-19-21, set 6⅝-inch 2112 ft. Johnson et al's Sailles 1, 18-17-22, sd 915 ft. Kemp et al's Emerson 1, 7-19-19, sd 2260 ft. Ky-Ark. Pet. Co.'s Doss 1, 29-19-20, lcn. Magnolia Development Co.'s Lindsey 1, 30-18-19, lcn. Meier et al's Gantt 1, 15-19-22, lcn. Moore et al's Fullenwilder 1, 12-17-22, dr 1910 ft. Phillips et al's Davis 1, 15-18-21, sd 2745 ft.

DALLAS COUNTY—Durr et al's Riggs-Matlock 1, 33-8-15, sd 2400 ft.

DREW COUNTY—Graves et al's Karnes 1, 20-14-6, sd 2385 ft. King & Wilson's Trotter 1, 12-13-6, sd 1250 ft. Rhodes et al's Harris 1, 5-13-8, fsh 2305 ft. Spooner et al's Meyer 1, 4-16-17, sd 50 ft.

GRANT COUNTY—Arnold & Hill's Meek 1, 8-4-11, dk. Haley & Evans' Pike 1, 8-6-11, sd 50 ft.

HEMPSTEAD COUNTY — Hempstead Oil Co.'s Nicholls 1, 17-11-25, sd for cas 1980 ft. Wooten et al's Walker 1, 22-11-24, dk.

LA FAYETTE COUNTY — Ken-Saw Pet. Co.'s Red River Valley Lumber 2, 3-20-24, dk.

LINCOLN COUNTY—Bennett et al's Jones

1, 33-10-6, dk. Cambrian et al's Fee 1, 3-9-8, dr 1815 ft.

LITTLE RIVER COUNTY—Gaines et al's Thomas 1, 16-13-29, dr 3600 ft. Grote et al's Allen 1, 2-13-29, sd 3000 ft. Johnson et al's Hawkins 1, 10-11-31, sd 1350 ft.

MILLER COUNTY—Norton et al's Thomas 1, 12-29-28, lcn.

NEVADA COUNTY — Keystone Oil Co.'s Moss 1, 7-14-20, dk. Ouachita Valley Oil Co.'s Phillips 1, 30-14-20, dr 1115 ft. Prescott Oil Co.'s Henry 3, 10-12-20, sd 1000 ft. Zingg et al's Groves 1, 22-10-23, sd for cas 1020 ft.

OUACHITA COUNTY — Bray & Hawthorne's Copenhagen 1, 13-14-17, dr 2540 ft. Dee et al's Criner 1, 21-15-19, dk. Reynolds & Thompson's Graves 1, 16-14-18, dr 800 ft.

UNION COUNTY—Berry et al's Union S. M. 1, 14-19-11, dr 1200 ft. O'Brien et al's Fee C-1, 13-19-17, dr 1575 ft.

Louisiana Wildcats

BIENVILLE PARISH—Roxana Pet. Co.'s Bryan 1, 30-17-6, set 10-inch 201 ft.

BOSSIER PARISH—Armistead et al's Bernstein 1, 11-29-13, sd 1180 ft. Atlantic Oil Prod. Co.'s Bodcau 2, 24-23-12, dr 100 ft. Coker et al's Rhodes 1, 31-21-11, dk. Skannal et al's Roscoe 1, 14-17-12, dr 1375 ft. Standard Drilling Synd.'s Johnson 1, 18-18-11, dr 1110 ft.

CADDO PARISH — Ark-Caddo Oil Co.'s Nickerson 1, 30-19-15, sd 2450 ft. Brewer et al's Sharp 1, 10-18-16, rig. Crude Oil Co.'s Alexander-Ledbetter. 1, 27-16-14, sd 3666 ft Glassell et al's Florsheim 1, 9-17-16, dr 700 ft. Lewis Oil Corp.'s C. M. L. 5, 24-23-15, set 6-inch 1037 ft. Richardson Oil Co.'s Bickham 1, 15-18-15, dr 2010 ft. Stith et al's Pitts 1, 11-23-16, rig.

CALDWELL PARISH—Culver et al's Culver 1, 21-14-4e, dr 3135 ft.

CLAIBORNE PARISH—Claiborne-Lincoln Synd.'s Fields 3, 22-19-5, dr 1040 ft. Collins & Woodley's Fortson 1, 28-21-5, coring 2830 ft. El Dorado Chief Oil Co.'s McElwee 1, 13-22-7, set 8-inch 2101 ft. Evans et al's Taylor 1, 5-19-5, rig.

DE SOTO PARISH — Daniels & Roscoe's Pollack 1, 36-11-24, set 6-inch 2390 ft. Tarver et al's Palmer 3, 3-11-14, dr 2325 ft; Conley 1, 2-14-10, dk. Ulrey et al's Deas 1, 23-11-12, lcn; Patterson-Robinson 1, 22-11-12, bldg dk. Wright et al's Sutherland 2, 19-12-14, sd 2614 ft.

GRANT PARISH—Grant Parish Pet. Co.'s Ball 2, 1-7-1w, rig.

LA SALLE PARISH — Bur-Ban Oil Co.'s Urania 2, 21-11-2e, gas blow-out, 2090 ft. Columbia O. & G. Co.'s Urania Lumber 1, 22-10-2e, sd 200 ft. Gulf Ref'g Co.'s Urania 1, 22-11-2e, dk; Urania A-1, 22-11-2e, sd 1022 ft. Stovall Drilling Co.'s Louisiana-Central Lumber 2, 27-10-2e, sd 2000 ft. Urania Pet. Co.'s Urania 4, 20-10-2e, sd 1573 ft.

LINCOLN PARISH—Buckner et al's Barrett 1, 13-20-3w, set 8-inch 1050 ft.

NATCHITOCHES PARISH—R. O. Roy & Co.'s Durr 1, 27-10-10, dr 50 ft.

OUACHITA PARISH — Dickson & Frue's Goodwin 1, 24-18-2e, set 8-inch 2070 ft.

UNION PARISH—Jones & Walker's Feazel 1, 6-19-2e, dr 1800 ft. Roxana Pet. Co.'s Voss 1, 18-22-2w, lcn. Simms Oil Co.'s James 1, 16-22-3w, rig.

WEBSTER PARISH—Arkansas Nat'l Gas Co.'s Frazier 1, 27-23-11, set 12½-inch 136 ft. Belchic & Lakey's P. W. Lumber 6, 33-23-11, rig. Bethany O. & G. Co.'s Wiley 2, 6-22-9, rig. Butler & McMurray's Allen 1, 35-23-11, rig. Fortuna Oil Co.'s Nickerson 1, 23-23-10, dk; P. W. Lumber 1, 27-23-10, dk. Haenlen et al's Roberts 1, 9-23-10, dr 1260 ft. McDowell et al's Hortman 1, 15-20-10, dr 2170 ft. Kinnedy et al's Ambrose 1, 19-20-10, dk. Palmer Corp.'s Miller 1, 29-21-10, dr 3395 ft. S. S. Raymond's Coyle 1, 28-21-10, set 4½-inch 3255 ft. The Texas Co.'s Tinsley 1, 35-23-10, set 8-inch 1170 ft. J. K. Waldley's Dickson 1, 31-23-9, dk.

WINN PARISH — Galloway & Arrendale's McCarty 1, 5-14-1w, sd 500 ft.

Another "First-Run" Success

For Quick and Positive Results You Simply Can't Beat These Tools

Record after record comes in of amazing fishing jobs performed as every-day tasks by the Devil's Steel Hand and Devil's Pitchfork. Here is the latest:

At Torrance the Consolidated Mutual Oil Company lost a section of a W. K. M. Rotary Slip. The hole was 3500 feet deep but luckily for them, the section lodged on a bridge just out of the 15½" casing.

Luckily also, they knew what to do under such conditions.

A 15¼" Devil's Steel Hand was run into the hole. On the first run it picked its fish off the bridge and the hole was clean!

Can you afford to be without tools that make such records as these almost every day in the year?

BROWN WELDING & MACHINE COMPANY

Breckenridge, Texas

Rental Branch: 424 E. Second St., Tulsa

FOR QUICK AND POSITIVE RESULTS—

DEVIL'S STEEL HAND AND DEVIL'S PITCHFORK

The FT. WORTH LABORATORIES

Field Gas Testing. Analysis of oil field brines, gas minerals and oil Sell Thermometers, Hydrometers and Laboratory Glassware

F. B. Porter, B. S., Ch. E., Pres.
R. H. Fash, B. S., Vice-President
828½ Monroe St., Ft. Worth, Tex.

BIG FIELD LEASES!

Choice oil and gas leases near drilling wells and locations in Reagan, Crockett and Upton Counties, Texas, along Marathon Fold. Big production area. Prices based on early buying as pioneer in field. All 10-year, 88-form commercial leases, low rentals. Titles good.

Write for maps. C. W. WEBSTER, 1002 W. T. Waggoner Bldg., Fort Worth, Texas. Reference: R. G. Dun & Co.

EARLY DEANE
Drilling Contractor
207 James Bldg. El Dorado, Ark.
Phone 1061 Box 811
WANTS WORK FOR
Two drilling rigs in Smackover, will ship anywhere.

TEXAS OIL MAPS
County and District
Catalog on Application
HEYDRICK MAPPING COMPANY,
Wichita Falls, Texas

CAMEL HAIR BELTING

AXELSON
Working Barrels
and Sucker Rods

REID Engines
and Powers

RATIGAN
Beam Hangers,
Sure Grips, etc.

WHITLOCK
All-Manila
Cordage

NATIONAL
Transit Steam
and Power Pumps

DREADNAUGHT
Rotary
Equipment

DONOVAN
Boilers

ROEBLING
Wire Lines

F-R SERVICE
Rubber Belting

JONES & LAUGHLIN
Tubular Goods

The Development of More than 2074 Years

KNOWLEDGE and use of the expansive force of water vapor existed more than 150 years before Christ was born. Hero of Alexandria wrote about steam devices of contemporaries and predecessors. He even rigged one up himself, using its force to blow an organ or turn a skillet, or something equally foolish.

Many men have experimented more seriously with steam since Hero did his stuff. But as far as Oil Country equipment goes, the sum total of human experience in steam appliances is culminated in any Donovan Boiler.

Just as a matter of keeping up with modern equipment, every Oil Man should know about Donovan Boilers—how little fuel is required to fire them, how steadfastly they keep up steam, how long they last.

They can tell you all about Donovan Boilers at the Frick-Reid Store in your field, or a letter addressed to our Tulsa office will bring you complete information without obligation.

Complete Cable Tool Equipment—F. R. Electric Light Plants — Warren Steam Engines — Johns-Manville Packings—Carbic Oxy-Acetylene Welding and Cutting Apparatus, etc.

The Frick-Reid Supply Co.

Tulsa, Okla. Pittsburgh, Pa.

West of the Mississippi—Stores Everywhere

In Oil Country Equipment—the most HUMAN organization in America

RECOGNIZED PETROLEUM GEOLOGISTS

HEATH M. ROBINSON
GEOLOGIST
304 American Exchange Nat. Bank Bldg.
DALLAS, TEXAS
Telephone: X-2738

ALEXANDER DEUSSEN
CONSULTING GEOLOGIST
Reports—Appraisals—Management
Texas and Louisiana Oil Properties
1105-6 State Nat'l Bank Bldg., Houston Tex.

EDWIN B. HOPKINS
CONSULTING GEOLOGIST
25 Broadway
NEW YORK

DEWITT T. RING
Petroleum Geologist
El Dorado, Ark.
905 Electric Bldg. Buffalo, N. Y.

DAVID DONOGHUE
Geologist and Engineer
Appraisals and Geological Reports
West Building, Houston, Texas

William H. Foster W. A. Reiter
FOSTER & REITER
CONSULTING GEOLOGISTS
19th Floor, Magnolia Bldg., Dallas
Atlas Life Bldg., Tulsa

F. C. LANCTON
Public Accountant
Specializing in Oil Accounting and Systems.
400 Republic Bank Building
DALLAS, TEXAS, P. O. Box 324

VINSON, ELKINS & WOOD
ATTORNEYS
Gulf Building, Houston, Texas
Special Attention to Oil Leases and Litigation

Prairie Organizes Geological Department

Tulsa, Oklahoma, Dec. 6.—Departing from its previous policy, the Prarie Oil and Gas Company has created a geological department for the organization. R. M. Gawthrop, formerly connected with the Transcontinental Oil Company, is the head of the new department.

W. D. Miller, selected as assistant chief geologist, along with Gawthrop, will open offices at 816 and 817 Exchange National Bank Building, Tulsa. Several assistant geologists will later be appointed for each Oklahoma and Kansas district.

International Opens Store at Winfield

Winfield, Kansas, Nov. 29.—The International Supply Company is putting in a supply house at Winfield for the purpose of supplying the Rainbow Bend, Graham-Wilcox, Winfield, Oxford and other surrounding pools where activity at the present time is at its height.

Several oil companies continue to increase their land departments in Cowley and Sumner Counties. The Texas Company is reported to be taking on some protection.

PATENTS
Patents Obtained and Trade Marks and Copyrights Registered
428-29-30 Bankers Mortgage Building
HARDWAY & CATHEY
Phone Preston 4790 Houston, Texas

Maurice Hirsch & Allen Hannay
ATTORNEYS AT LAW
601-2-3 Goggan Bldg.
HOUSTON, TEXAS
Specializing in Oil Law and Land Law

PATENTS
Patents Obtained, Trade Marks, Patent Causes
JESSE R. STONE
Formerly Assistant Examiner United States Patent Office
Andrews, Streetman Logue and Mobley
12th Floor Union N. Bk., Houston, Texas

PATENTS OBTAINED FOR INVENTORS
JACK A. SCHLEY
U.S. PATENT ATTORNEY
305 INTERURBAN BLDG., DALLAS

Renewed Rotaries!
No. 5
IDEAL
complete
Guaranteed

"Ideal" No. 5 Rotaries renewed the Baash-Ross way, are guaranteed to give service that will equal the records of new rotaries, in both deep and shallow fields in the most severe service.

save

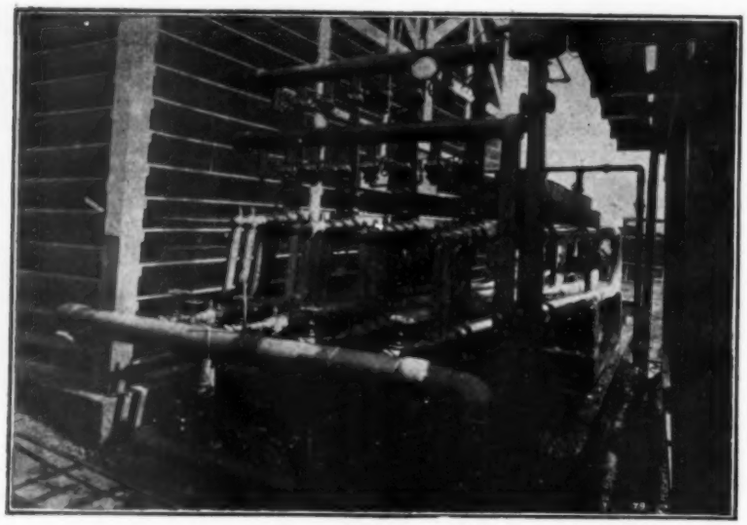
A big saving can be made by using these renewed rotaries, without lowering the efficiency standard obtained with a new rotary. Order from nearest branch. At all principal fields.

Baash-Ross Tool Company
LOS ANGELES, CALIF.
5512 Boyle Ave. Phone Deleware 2141
P. O. Box 694, Houston, Texas
Brances: Brea Long Beach, Torrance, Rosecrans

"FOR SALE

One 450 H. P. Snow gas engine gas compressor 2/20x14x 36. In first class condition. For quick disposal will sell at bargain price. Apply The Union Natural Gas Company of Canada, Limited, Chatham, Ontario."

ENGINEERS & CONTRACTORS
IN NATURAL GAS AND OIL



A Form of Insurance

The record of the Hope Company, as engineers and contractors in oil and natural gas, is a record of achievement satisfactory and profitable to Hope clients.

A contract with the Hope Company, in this special field of service, carries with it a form of insurance against disappointment, delay and loss.

The reputation of the Hope Company has been built by a conscientious fulfilment of its obligations to its clients and of its promises as to completion dates and performance.

HOPE SERVICE

Engineering counsel, design, construction and contracting—in pipe lines for oil and gas, oil pumping stations, gas compressing and boosting plants, gasoline recovery systems, city and inter-city gas mains.

UNIT RESPONSIBILITY

ENGINEERS CONTRACTORS
HOPE Engineering & Supply COMPANY
DESIGNERS MANUFACTURERS
MT. VERNON, OHIO, U. S. A.

Drilling in Western Kansas Again at Low Ebb

Wichita, Kansas, Dec. 8.—Marland Refining Company's No. 1 Wright, in the southeast corner of the north half of the northwest quarter of section 10-33-3, Graham-Wilcox pool, Cowley County, flowed natural from the sand found at 2560 feet to 2567 feet. The new well appears to be better than Roxana Petroleum Corporation's No. 1 Spreuns, two locations south, which is giving promise of being capable of 150 barrels of oil daily. Wright No. 1 made a spectacular flow when the sand was first touched, but soon settled down.

Harry C. Gwinnup's No. 1 L. L. Power, in the northwest quarter of the southeast quarter of section 2-28-13, Wilson County, unexpectedly struck sand at the shallow depth of 465 feet. The sand swabbed nearly 100 barrels daily. But owing to the fact that only two feet of the pay sand was found, the test is being drilled deeper and at the present is below the 800-foot mark. The test if successful will open up another oil pool in southeastern Kansas.

The drilling campaign of Western Kansas is again at low ebb due to the bringing in of four dry holes and the temporary abandonment of 25 wells and rigs. The larger companies are no longer trying to lease large blocks. This is the second time oil operators have retired from west Kansas.

The Liberty pool, in Montgomery County of southeastern Kansas continues to be most active. The recent extension to the pool by Harwood and associates who brought in a producer on the Good farm, in section 12-33-16, started renewed activity on the part of the operators. A total of nine wells are now nearing the pay sand.

T. B. Slick's No. 1 Carson, in the southwest corner of the northeast of section 19-32-2, Sumner County, is making 590 barrels from 3224 feet to 3430 feet.

Twelve locations have been made on which eight rigs are up and the remainder building in the Teter pool in Greenwood County. The present activity is the result of the Phillips Petroleum Company's extension well. The Skelly Oil Company report five new locations.

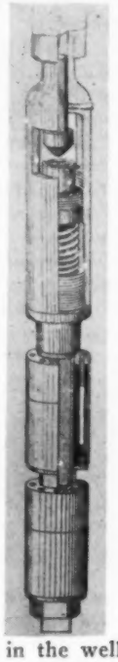
A gas well in the Burgess sand estimated to be from 10-25 million feet of gas has been brought in by Edwards, Reed and King, in the northwest corner of the southwest of the northeast of section 13-33-16.

C. C. Bean, has been transferred from the Denver, Colorado offices of The California Company to Colorado, Texas, to assist in the land department work in the West Texas wildcat district.

NEW EQUIPMENT, CATALOGS, BULLETINS, BOOKS

Hoffman Swab Especially Adaptable to Pipe

Combining what the manufacturers claim are a number of advantageous features into one product, the Hoffman release swab is now being placed on the market by the Hoffman Manufacturing Company, of Bristow, Oklahoma.



The release of the unloading device in the Hoffman swab is located above and is independent of the rubbers, a feature which makes the product all the more acceptable to the trade, according to the makers. Another feature of the Hoffman swab is that the specially designed and constructed fluid expansion rubber will conform to any weight and condition of pipe .

Manufacturers state that the swab will pull form 150 to 500 feet of fluid, the fluid passing through a large opening in the center and around outside of the fluid expansion rubbers while being lowered in the well. The swab may be lowered in the well as rapidly as desired without kinking the drilling line.

There is no check on the Hoffman swab.

Further details can be had by writing the Hoffman Manufacturing Company, Bristow, Oklahoma.

Counter Balance for Band Wheels Gives Success

The Oil Country Specialty Company of Coffeyville, Kansas, announces a new band wheel counter balance. The counter balance is hung between the front jack post and the band wheel.

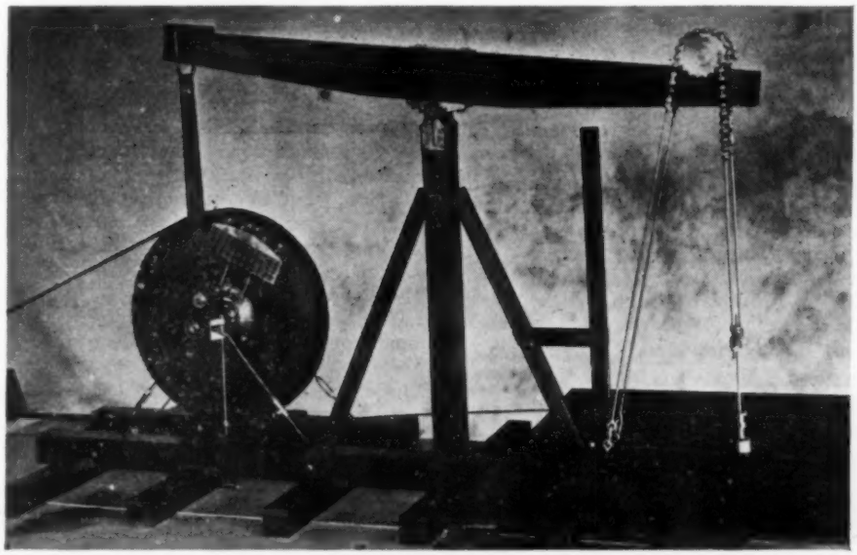
A bearing is placed on the band wheel shaft from which two 1½ inch rods are suspended and a large weight of 300 pounds is held by these suspended rods. An additional sectional weight of one hundred pounds each can be added until the weight required is obtained.

The main feature of this counter balance is that when pumping the counter balance is fastened to the outer rim of the band wheel with three one-inch bolts and the bearing turns with the band wheel shaft. When pulling rods and tubing, the counter weight is disconnected from the band wheel and pulled over and fastened to the jack post while the band wheel shaft turns in the bearing.

The two suspension rods take the centrifugal force and the loads of the weights at all points of the revolution, eliminating the danger of pulling the band wheel out of alignment. This band wheel counterbalance is a complete change in counter balance from reciprocating to centrifugal motion.

By using the counter balance, all the weight of the rods and half of the fluid can be counterbalanced and the momentum created during the easy part of the revolution, the load on the engine belt can be reduced to about one-third as stated by the manufacturers. Another feature is that, due to the center of gravity of the weight being near the outer edge of the band wheel and with a shorter circumference, a weight of one thousand pounds on the band wheel is equal to about three thousand pounds on the walking beam.

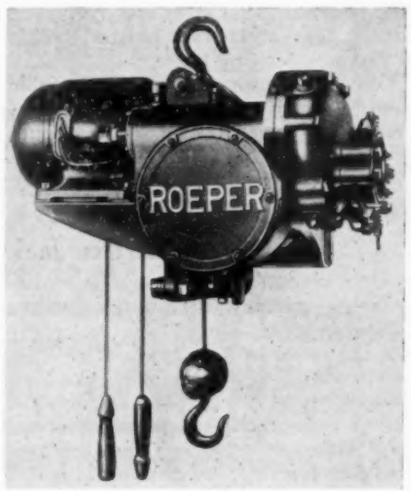
This counter balance has been perfected by M. P. Burke of Tulsa and the patent is pending. Additional information can be obtained from the O. C. S. Mfg. Company, Coffeyville, Kansas, marketers of the balance.



O. C. S. Band Wheel Counter-Balance

High Speed Electric Hoist Offered by Roeper Company

In developing the type "R" Hoist, the Roeper Crane and Hoist Works, Inc., Reading, Pennsylvania, kept in mind the need for a hoist which might be used by all classes of labor. In addition, the hoist was designed to meet the need of small capacity, high speed electric hoists, in places where the slow moving hoists are not satisfactory.



Roeper High-Speed Electric Hoist

The hoist is worm geared with the worm placed above the gear. The worm shaft is equipped with a ball and thrust bearings.

Motors are of manufacturers' standards, and are mounted on their feet directly upon an extension of the hoist frame.

The main frame of the hoist is a one-piece casting, properly machined, that contains all bearings, so that shafts and moving parts, once assembled cannot get out of alignment.

Wrought steel suspension plates, reaching from drum shafts to overhead suspension members, relieve all tension on castings and provide a means for hook, link, clevice, or any form of special suspension.

An automatic stop of the trip lever type that is positive in its action affords protection in extreme lifting and lowering. This stop can be adjusted for any distance of hook travel.

The need of a load brake is removed through the worm drive, thus avoiding all the trouble attendant to brakes of this character. The motor is equipped with a mechanically operated jaw brake acting in series with controller, which brings the motor to a quick stop, pre-

venting drifting of the load when the power is cut off.

Controllers are of the single-speed drum type of standard design. Push button control also can be furnished when necessary. For this control, the motor is equipped with an electro magnetic brake and an adjustable upper and lower electric limit switch.

While the illustration shows a perfectly balanced hoist for hook suspension, it can also be furnished with either plain or geared I-beam, and trolleys with roller bearing wheels. Provision is also made for direct connection of hoists to any standard trolley for flat rail or special track.

Hoists of 500 pound, 1000 pound, and 2000 pound capacities are furnished with single strand of hoisting cable of the non-twisting type.

Complete information is available from The Roeper Crane & Hoist Works, Incorporated, Reading, Pennsylvania.

Texas Company Brings Out 10-Foot Stroke Jack

After several months spent in experimenting and perfecting a long stroke pumping jack, The Texas Company has the outfit in operation on its lease at Humble, Texas. The jack has been running about two and one-half months and is believed to be entirely successful. Although the jack is not for general distribution, a description of it will be interesting to those working on long stroke pumpers.

The outfit is being used on a well 2200 feet deep. It uses a 3¼-inch plunger with ⅞-inch sucker rods. Actual stroke of the jack is 120 inches, or 10 feet. Loss of stroke due to the stretching of rods and tubing is 17 inches, giving a travel of 103 inches, of the plunger in the working barrel.

Displacement of the working barrel at 10 R. P. M. is 1688 barrels per 24 hours.

The actual amount of fluid being delivered is 1275 barrels. Before the outfit was installed the well had been blown with air. The oil was badly cut and required 50 barrels of fuel oil to generate steam for treating purposes. Fuel to run the compressor amounted to 25 barrels.

After the well was put on the jack, production increased about 40 per cent, the oil quit cutting, and instead of burning 75 barrels of fuel oil under the boilers, only one and one-half barrels are required to run the oil engine that drives the jack.

Other advantages of the long stroke jack are: increase in displacement of the working barrel at slower speed. There is also less chance of breakage in sucker rods due to the decreased number of reversals per minute, also to a decrease in the inertia stress.

There is a reduction in the percentage of lost travel which is caused by the stretch in the rods and tubing.

The working barrel, when used with

The Texas Company's Long Stroke Jack

a long stroke jack, is not so likely to become gas bound. If any gas should happen to enter the barrel, then on account of the long stroke, this gas will be compressed to a high pressure, sufficiently high to lift the ball in the traveling valve, giving the gas a chance to escape through the tubing.

Due to the fewer number of reversals per minute, the traveling and standing valves will open and close a fewer number of times per minute which results in less wear and increased life of the pump parts.

The jack is driven by a 40 h. p. Injico oil engine. No such large engine is required for pumping, but the present engine is chosen that big for pulling rods and tubing. A hoisting drum built at the front of the jack is used for pulling rods and tubing or can be used for bailing. When the drum is to be used for this purpose, it is only necessary to put on the driving chain and throw out a clutch which operates the gearing of the jack.

Essential parts of the jack are: Vertical or Samson post; a walking-beam counterbalanced by a concrete weight; a train of gears with an overall gear ratio of 18 to 1; connecting rod or pitman.

Straight line motion is obtained by using a linkage similar to that used on a standard rig. The proportion of the counter weight is such that the push and pull on the pitman is the same on the up and down stroke, which puts an even load on the gears.

Returns from Europe

J. H. McEvoy, Jr., of Houston, connected with J. H. McEvoy and Company, has returned after an extensive tour of Europe. During his stay abroad, Mr. McEvoy visited several of the foreign oil fields.

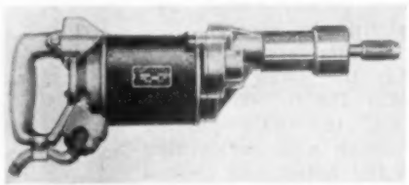
Electric Screw Driver is Declared a Handy Tool

Machinists and shop workers in oil fields will appreciate the "Hisey" friction head screw driver, manufactured by The Hisey-Wolf Machine Company, Cincinnati, Ohio. This screw driver is claimed to be one of the handiest tools on the market.

It is equipped with ball bearings throughout and designed with a Hisey Universal motor for operation on direct current and single phase alternating current of the same voltage, and for any frequency from 25 to 60 cycles.

The driving head is equipped with an improved disc type friction clutch which is automatically regulated by the pressure applied, thereby giving the operator full control at all times. The clutch casing is of convenient size and serves as an end grip when the work requires.

Screws up to No. 14 by 2½ inches long can be driven in soft solid wood. When suitable lead holes are provided, larger wood screws and lag screws up to 5/16-inches diameter by 4 inches



long can be driven. These machines are equally as practical for setting nuts up to 3/8 inch in metal and wood construction work.

The quick-cable connector is an important feature of the tool. It permits cabe repairs and renewals without dismantling the machine, thereby eliminating loss of time.

Each machine is supplied with 10 feet of all-rubber conductor cable fitted with suitable attaching plug and two screw driving bits.

More information and literature will be sent upon inquiry to The Hisey-Wolf Machine Company, Cincinnati, Ohio.

Indiana Executives Visit Dixie Properties

Wewoka, Okla., Dec. 7.—Robert W. Stewart, Chairman of the Board of Directors of the Standard Oil Company (Indiana) and five other officials of the organization, arrived here today for an inspection tour of the Dixie Oil Company properties, a subsidiary of the Indiana organization.

The party, on their way to the annual convention of the American Petroleum Institute at Fort Worth, include the following executives: Robert W. Stewart, chairman of the board; Beaumont Parks, vice president; E. G. Suebert, vice president and secretary and treasurer; Allan Jackson, vice president; E. J. Bullock, director of purchases, and Robert H. McElroy, director of traffic.

Quality
You Can Depend On

The efficiency of your operating equipment depends in as great a measure on the character and quality of the lubricants used, as it does on the type of the equipment itself and the skill of the operating personnel.

Humble Lubricants are specially refined so as to maintain the right lubricating body on bearings which operate under high speeds, as well as on those which carry heavy loads.

Humble Oils retain the proper viscosity and hold their fluid film at the operating temperatures produced by high speeds, and they have sufficient "oiliness" to leave a semi-plastic, adsorbed film which protects the bearing surfaces from abrasion during periods of partial lubrication, especially bearings like those of line shafts, countershafts and machine tools, which are started and stopped frequently and are often subjected to peak loads.

This "oiliness" quality of Humble Oils, and their ability to hold an adsorbed film, during periods of partial lubrication, protect against abrasion, overheating, and bearing failures.

There is a Humble Oil which is specially prepared for every bearing need, whether in your plant, in your trucks, or in your automobile.

HUMBLE OIL & REFINING CO. HUMBLE OILS HOUSTON, TEXAS

Write us for samples and prices

Humble Oil & Refining Co.
HOUSTON, TEXAS

Producers ~ Pipe Lines ~ Refiners ~ Marketers

LETTERS OF Paul Peebles P.S.G.

mi deer cleopatry

well cleo hunny I am ritin 2 yu from a hospistal whitch I gess aint enny susprise 2 yu after what I told yu about me & dinnamite & mi sees-more-graft masheen. I can tell yu now how cum it has sees in that name on account I hav seed sumthin on account of it. yu wood be susprised how menny stars it is & I hav found out that the sees-more-graft is a grate help in the studdy of higher mathmaticks on account it will put yu up high & yu can lern mathmaticks by countin what yu see.

well hunny I gess it aint fare 2 leev yu in suspenders like this, so I will begin at the beginnin & tell yu all about it.

I gess now mabe I will not git 2 go 2 ft. werth 2 the api meetin, whitch is the cause of mi bein in the hospistal insted of reddy & rarin 2 go.

well hunny yu no I told yu I was mitty anxshus 2 go 2 that meetin on account all the big boys goes & that includes me so that the meetin will not be compleat without me there. anuther reesen that I allus like 2 go is so that bill gray can put his hed on mi manly busom whilst he is cryin about them little wells. he shore will be cryin this time when he gits down 2 ft. werth and heres them talkin about what wortham is goin 2 do. but hunny I aint goin 2 say nuthin about wertham now, but I will tell yu I told yu so when they git done. I hav got it doped out in mi own mine but I aint sayin nuthin now on account aint noboddy asted mi advise.

well when the program for the meetin cum out I seen that I was not down on it for a speach befoar the meetin on account the main bizness they are goin 2 hav is talkin about standardizatun of equipment so I thort it wood be a good skeam for me 2 further perfeck mi sees-more-graft masheen & git the institoot 2 standarization on it. yu sea hunny I aint stuck up like henry dorety & am willin 2 take mit pet masheen 2 ft. werth even if he wont take his new oil berner. henry does not need 2 think that he has spoiled the party bi not bringin his berner, because them that wants 2 can hav a pretty hot time in ft. werth without no berner.

but now I am gittin back 2 how cum I am in the hospistal.

well like I sed I thort I wood werk on mi masheen sum moar & giv it a practikal demonstrashun & practis werkin out the formlar so I tooken the derned thing out on the prary 2 werk with it. hunny yu must excuse me for sayin dern in a letter 2 yu but the derned thing is all blowed 2 hell now & it takes cussin 2 talk about it.

so I sets her up on a little nole whitch I thort mite be an infant salt dume or mabe where a old dirt chimney was onst, & set down with a slate whitch I had brote along 2 practis on the figgerin. yu see hunny I can't git over mi erly trainin of figgerin on a slate. that was the way they tort me 2 do it back in arkansaw & besides yu can rub out the rong ones bi spittin on it.

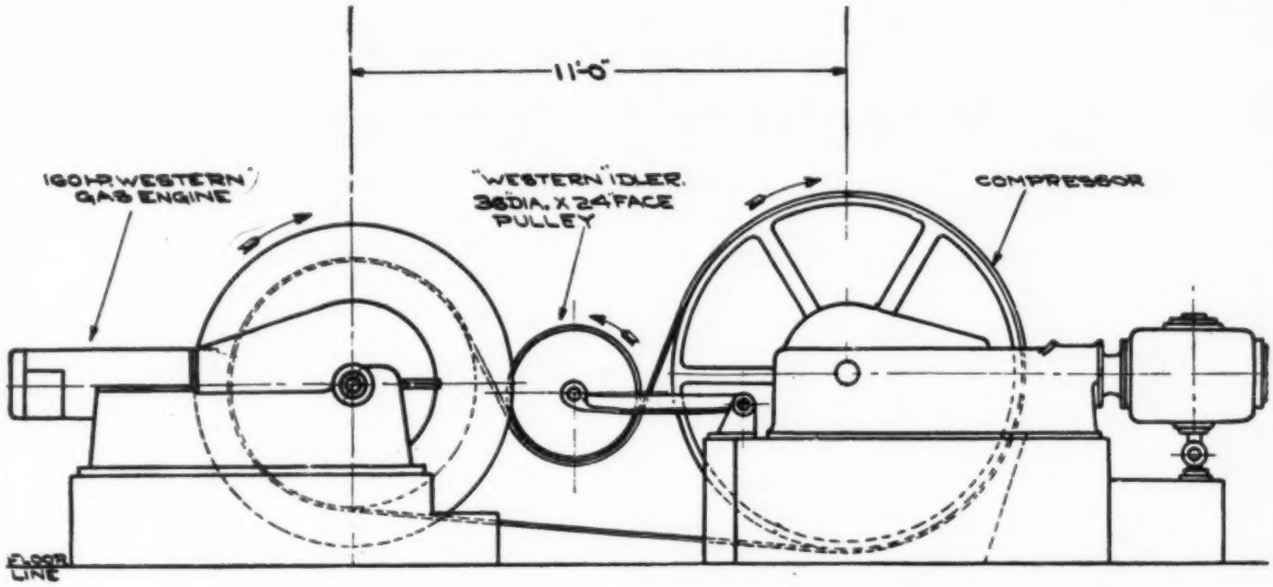
well the layout was all fixed up for a test & I had open up the poweder whilse I was figgerin & I forgotten about it when I gotten threw smoakin a sigaret & just throwed it over mi shoulder. I was the imedjit victum of amneezia from then on & I aint bin back 2 sea what happened 2 the masheen & neether do I care moar than I can imagin about it. The onliest thing I can remember was that I had a feelin like I was a comeck & was havin a hard time dodgin the stars. I was studyin in mi mine of higher matamaticks but all I had 2 figger with was the frame offen mi slate & that was around mi neck.

well the next thing I herd was sumboddy sayin he never will look natral. & then I felt a soft white hand on mi hed & I was afred 2 open mi eyes for a minnit & when I did I thort I ort 2 be hearin the hevenly quire singin "let the light from the lighthouse shine on me," with cernel umphreys singin base. but hunny yu need not 2 be werried about that because I will git over it like I alwaze do. but whenever I wake up in a hospistal with a nerses hand on mi hed well I alwaze think she is a angel & I gess she is. & bi the time I get reddy 2 leev she alwaze tells me what a big fool I am & that is all there is 2 it.

well I am not hert as mutch as I look like I am so mabe I will be able 2 go 2 the meetin at ft. werth yet mabe for the end of it but I will not hav no masheen 2 show 2 the meetin, onli I can giv them a good demonstrashun of figgerin & if they will go down 2 wertham with me I can show them sum drillin rigs whitch is the shorest way they is of findin out if it is oil in the ground or not.

well hunny I will close now & rite 2 yu agin mabe sumtime when I hav sum reel news 2 tell yu about miself.

yore lovin paul.



Consider the Salvage and Resale Values of your Engines and Compressors

"A single Western Engine frequently has changed the complete power policy of an entire company."

When belted engines and compressors are purchased for a particular purpose, and conditions change, the owner has on hand machines that are readily adaptable to any number of purposes. If he has no further use for the equipment, there always is a market for it, because of the common use of engines and compressors in every line of industry.

Incidentally, the "Western" Standard Compressor drive illustrated, proyides for the maximum flexibility of operation, with minimum floor space.

Western Machinery Company

General Offices and Factory: 905 North Main Street

Los Angeles, California

San Francisco Office and Factory:
Enterprise Engine Company, Eighteenth & Alabama Sts.

TULSA OKMULGEE BAKERSFIELD

Gulf Refining Company

OKLAHOMA
TEXAS
LOUISIANA

Refiners of PETROLEUM

GASOLINE
REFINED OIL
NAPHTHA
GAS OILS
PARAFFINE WAX
ASPHALT
FUEL OIL
LUBRICATING OILS
CYLINDER
ENGINE
CORDAGE

Red and Pale Paraffine Oils

General Sales Offices: PITTSBURGH, PA.

District Sales Offices:
NEW YORK, HOUSTON, ATLANTA, BOSTON, NEW ORLEANS
PHILADELPHIA

Ocean Terminals

Beverly, Mass.
Gibson's Point, Pa.
Port Tampa, Fla.
Port Arthur, Texas

Bayonne, N. J.
Savannah, Ga.
Gretna, La.
Magazine Point (Mobile), Ala.

Providence, R. I.
Jacksonville, Fla.
Galveston, Texas

SQUEAKS from the BULL WHEEL

Evidence That Wortham Will Be a Field— They Are Flocking There from All Over

By Grady Triplett
Staff Representative

Down Laredo way and by shongaloo,
From Three Sands Town and Gander Slough,
They've headed in, heard the call;
A field comin' in, they're drillers all.

Just like the rail birds collect before the ponies face the barrier, the well diggers have flocked to Wortham. They are sleeping on floors and in chairs, for beds are scarce some nights. Some go to Mexia and to Corsicana to sleep.

"The boys that own pajamas, get out of town to sleep," is the way one man put it in the course of a hot stove session, while the crowd drowsed and waited for daylight.

It's a good omen in the annals of oil to have the crowd come early. If there is any merit in the omen, Wortham is in for a play that will earn it a place of rank with Burkburnett, Smackover and the other fields that draw the most of the conversation when the knights of laced boots while away their hours.

"After it's all over and the crowds are gone, they'll fix the bridges and pave the roads," commented a drowsy teamster, who had recounted his troubles at getting a boiler in, only to be unable to find its owner or a bed, whereupon he had made the most of the night by sleeping on the floor and in a chair.

"Never will be a good oil field without mud anyway," added a well digger, "you donkey knockers can fight the soft roads and we'll get the holes down and make it an oil field."

"Liable to have some o' you boll weevils out building culverts before you get any rigs. These things the commissioners built 10 years ago to hold bales of cotton goin' to crumble like cigar boxes when the heavy stuff comes in."

"Let the culverts go. Get some boilers stuck, have three robberies and get a waffle house started, then we'll have an oil field."

Just then the company was graced by a lanky individual, from whose right shoulder swung a roll of blankets, while a small hand bag hung from his left. He stood puffing on a foul pipe.

"Bet he's a corn doctor," the donkey knocker surmised.

"Two to one he's a geologist," the well digger put in.

But the lanky arrival put them both wrong by returning from the corner where he deposited his bedding to ask, "any you boys need your knives or razors sharpened?"

That held them until the well digger retaliated by asking, "ain't got no manycurin' tools have you. Curley needs a manycure."

"Leave Curley out and keep that bazoo closed," came from a corner, where Curley had elected to sleep.

"Get up and get out," the well digger chided, "be daylight in a few hours. You know we got to have a bed by tonight and a job as soon as these donkey knockers can get rigs in.

"Daylight be damned. Haven't had a decent sleep since I found you amid those Oklahoma rope chockers and brought you down here where a goose neck is respectable."

"Curley, Curley, sit on your Wyoming disposition. We're good men, whether we're dressin' tools on a cable job or makin' hole with a fish tail."

"Ought to get you a job night watchin'."

"Open your eyes, Curley. Let's go and see the city. Never be the same again. Be a dago banana joint, a hot dog stand, razor blade sharpener, medicine show, town lot salesman, two fortune tellers and an inventor settin' up tents before noon. Town's growin' Curley. Got to watch close, or we won't know the way back to the hotel after breakfast."

"'Nother volley out o' you and all you'll need to know is the way from the hotel."

"Anyway, I'm a good well digger."

"Good when you got a job."

"Let's go find a cup of coffee. Old Santa might be around somewhere shakin' jobs off the Christmas tree. We're bound to have some good luck. Had enough bad."

"Had my worst when I tied up with you. Which way's town?"

The well digger sighted a restaurant and called "two cups o' coffee," before he closed the door. "Make one black," he added.

"Call that coffee?" he asked, after drawing a saucer full through his teeth.

"How often you change the grounds?" he continued. "Must make fresh coffee as often as a well digger takes a bath."

"Not that seldom," Curley giggled.

"Tastes like they set the coffee can on a shelf and boil the shadow."

"What you eatin'?" Curley cut in.

"No waffles. Eat ham. That's good oil field truck. Ham can't go wrong. Can't trust eggs. Country eggs goin' to town for Christmas. Town eggs comin' back to the country for well diggers."

"Seen anybody you know?"

"Nobody but the razor grinder. Remember him. He was sellin' spectacles in Smackover. Wearin' a pair of 'em now and grinding razors."

"Be many a hijacker here before a week passes."

"Unless they got good law."

"What does a hijacker care for law?"

"Cares a heap. Remember when the soldier boys came into Mexia? Turned it into a Sunday school."

"Yep. But there ain't any soldiers here."

"Lot of idle Texas rangers somewhere. Might bring 'em here and give 'em somethin' to do besides feed their horses."

"Gettin' good?"

"Always been good, Curley. Believe in the law. As long as a man can get a job, place to sleep and plenty of chewin' tobacco, he ought to bet satisfied."

"Elect you constable if you don't hush."

"Seen the calaboose? I'd fill it so quick they'd have to use the stock pen."

"No hijackers here yet."

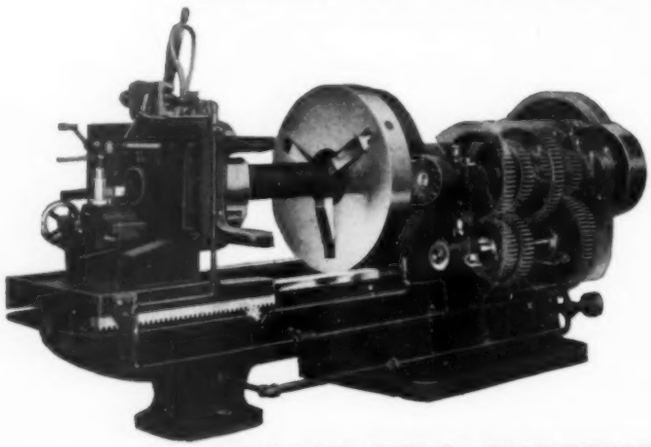
"Who said hijackers? Seen them boys wearin' pants big at the bottom of the legs, Put them in furst. Hijackers next."

"What about bootleggers?"

"Curley, it's daylight. Let's go look for a job."

STANDARD

PIPE CUTTING MACHINES



Built Especially for the Wear and Tear of Oil Field Work

In whatever part of the world oil is drilled—there you will find a STANDARD WEILAND faithfully performing its tasks. Rugged in construction and simple in design it gives utmost satisfaction to every practical oil man.

Made in all regular sizes up to and including 24-inch. Wide chasers insure extra long threads in one cut. No complicated parts.

STANDARD ENGINEERING CO.
ELLWOOD CITY, PENNA.

TEXACO

Petroleum Products

HIGH GRADE UNIFORM QUALITY

Gasoline	Pale Oils	Machine Oils	Waxes
Kerosene	Red Oils	Cylinder Oils	Asphalts
Fuel Oils	Black Oil	Car Oils	Road Oils
Diesel Fuels	Floor Oils	Greases	Asphalt Cement
Bunker Oils	Spindle Oils	Cup Greases	Pipe Coating
Signal Oils	Motor Oils	Gear Lubricants	Roofing
Miners Oil	Engine Oils	Axle Greases	Roofing Cement
Gas Oil	Dynamo Oils	Wire Rope Lubricants	
Distillates			

THE TEXAS COMPANY

New York — 17 Battery Place
Chicago — McCormick Bldg.
Houston — The Texas Co. Bldg.

Offices in Principal Cities

Export Dept. 17 Battery Place, New York

GUIDE FOR PURCHASERS

Accountants—
F. C. Lancton

Air Compressors—
Continental Supply Company
Hope Engineering & Supply Co.
Southern Engine and Pump Co.

Air Lift Pumping Equipment—
Sullivan Machinery Co.

Attorneys—
Hirsch & Hannay
Vinson, Elkins & Wood

Balls and Seats—
Bradford Motor Works
Continental Supply Company
The Charles N. Hough Mfg. Co.

Band Wheels—
Continental Supply Company
Emsco Steel Products Co.
International Derrick & Equipment Company
Lee C. Moore & Co., Inc.

Bell Nipples—
The Cunningham Co.

Belting—
Bridgeport Machine Company
Continental Supply Company
D. F. Connolly Agency
Frick-Reid Supply Company
International Supply Company
Oil Well Supply Company
Republic Supply Co.
Stanley Belting Corp.

Boilers—
Bridgeport Machine Co.
The Brownell Co.
D. F. Connolly Agency
Continental Supply Company
Frick-Reid Supply Co.
International Supply Co.
The National Supply Cos.
Oil Well Supply Company
Republic Supply Company
Regan Forge & Engineering Co.
Star Drilling Machine Co.
Titusville Iron Works Co.
United Iron Works, Inc.
See Oil Field Supplies and Tanks

Boiler Tubes—
The Tyler Tube & Pipe Co.

Boiler Scale Remover—
Ward Chemical Co.

Blowout Preventer—
Baash-Ross Tool Company
Cameron Iron Works
Continental Supply Company
Regan Forge & Engineering Co.

Burners—
Continental Supply Company
Gaso Pump & Burner Mfg. Co.
Gould Burner Company
Regan Forge & Engineering Co.

Bull Wheels—
Continental Supply Company
International Derrick & Equipment Company
Lee C. Moore & Co., Inc.

Calf Wheels—
Continental Supply Company
International Derrick & Equipment Company
Lee C. Moore & Co., Inc.

Casing—
Continental Supply Company
Regan Forge & Engineering Co.
Republic Supply Company
Superior Tube Co.

Casing Shoes—
Baker Casing Shoe Co.
Bridgeport Machine Co.
Continental Supply Company
Gulf Coast Machine & Supply Co.
The National Supply Cos.
Pelican Well Tool & Supply Co.
Regan Forge & Engineering Co.
Republic Supply Company
W-K-M Company

Cement Hardener—
The Sullivan Company
W-K-M Company

Cement Head—
MacClatchie Mfg. Co.

Chain Blocks—
Yale & Towne Mfg. Company

Charcoal Iron Boiler Tubes—
The Tyler Tube & Pipe Co.

Control Heads—
Continental Supply Company
Southern Brass Mfg. & Plating Co.

Core Drills—
Acme Oil & Drill Company
Elliott Core Drilling Co.
Spengler Core Drilling Co.

Compressors—
Butler Mfg. Company
Continental Supply Company
F. W. Heitmann Co.
Hope Engineering Company
Sullivan Machinery Co.
United Iron Works, Inc.

Cordage—
D. F. Connolly Agency
Continental Supply Company
The National Supply Cos.
Republic Supply Company

Crown Blocks—
American Well & Pros. Co.
Baash-Ross Tool Company
Boykin Machinery & Supply Co.
Continental Supply Company
Gulf Coast Machine & Supply Co.
International Derrick & Equipment Company
Lufkin Foundry & Machine Co.
Oil Well Supply Company
Parkersburg Rig & Reel Co.
Superior Tube Co.

Couplings—
Continental Supply Company
Harrisburg Pipe & Pipe Bending Company
Steel Coupling Co.
Superior Tube Co.

Dehydrating Processes—
Wm S. Barnickel Co.
Petroleum Rectifying Co.

Derricks and Rigs—
International Derrick & Equipment Company
Lee C. Moore & Co.
National Turnbuckle Derrick Co.
Parkersburg Rig & Reel Co.
Peden Iron & Steel Co.
Robertson-McDonald Lumber Co.
Superior Tube Co.

Diamond Core Drills
Sullivan Machinery Co.

Disc Bits—
Continental Supply Company

Ditchers—
Buckeye Traction Ditcher Co.

Draw Works—
Continental Supply Company
Lufkin Foundry & Machine Co.

Drilling Cables—
American Cable Co.
Bridgeport Machine Co.
D. F. Connolly Agency
Continental Supply Company
Frick-Reid Supply Company
The National Supply Cos.
Peden Iron & Steel Co.
Regan Forge & Engineering Co.
Republic Supply Company
Star Drilling Machine Co.
Williamsport Wire Rope Co.

Drill Pipe Slips—
Baash-Ross Tool Company
Continental Supply Company

Drilling Machines—
Bridgeport Machine Co.
Continental Supply Company
Keystone Driller Co.
Parkersburg Rig & Reel Co.
Star Drilling Machine Co.

Drill Collars—
Baash-Ross Tool Company
Continental Supply Company

Drill Pipe Cutting—
Baash-Ross Tool Company

Drilling Tools—
Baash-Ross Tool Company
Continental Supply Company

Drill Pipe—
Continental Supply Company
Frick-Reid Supply Co.
Republic Supply Company
Reading Iron Company
Superior Tube Company

Drilling Equipment—
Baash-Ross Tool Company
Bridgeport Machine Co.
Continental Supply Company
Republic Supply Company
Star Drilling Machine Co.

Drilling Machines—
Star Drilling Machine Co.

Drive Pipe—
Continental Supply Company
Republic Supply Company
Reading Iron Co.
Superior Tube Co.

Electrical Equipment—
Westinghouse Elec. & Mfg. Co.

Elevators—
Bridgeport Machine Company
Continental Supply Company
The Cunningham Company
Dunn Mfg. Co.
Gulf Coast Machine & Supply Co.
LeBus Rotary Tool Works
Wilson & Willard Mfg. Co.

Engines, Diesel—
Western Machinery Co.

Engines, Gas—
Continental Supply Company
Frick-Reid Supply Co.
Hope Engineering & Supply Co.
The Pattin Bros. Co.
Western Machinery Co.

Engines, Oil—
Continental Supply Company
Frick-Reid Supply Co.
The Pattin Bros. Co.
Western Machinery Co.

Engines, Pumping—
Ajax Iron Works
Bessemer Gas Engine Co.
Bridgeport Machine Co.
Continental Supply Company
The Brownell Co.
De La Vergne Machine Co.
Franklin Valveless Engine Co.
Frick-Reid Supply Co.
Hope Engineering Co.
Lucey Mfg. Corp.
Lufkin Foundry & Machine Co.
The National Supply Cos.
National Transit Pump & Machine Company.
Oil Well Supply Co.
Peden Iron & Steel Company
Republic Supply Company
Rock Island Plow Co.
Southern Engine & Pump Co.
Titusville Iron Works
Western Machinery Company

Engineers—
David Donoghue
Foster & Reiter
Hope Engineering & Supply Co.
Lee C. Moore & Co.
Oil Conservation Engineering Co.
D. T. Ring

Fire Protection—
Continental Supply Company
Oil Conservation Engineering Co.

Fish Tail Bits—
Continental Supply Company
Frick-Reid Supply Company
Gulf Coast Mach. & Sup. Co.
Lucey Manufacturing Corp.
Pelican Well Tool & Supply Co.
Regan Forge & Engineering Co.
W-K-M Co.

Floor Circle Brace—
Continental Supply Company
Dunn Mfg. Co.

Fuel Oil—
Gulf Refining Company
Sinclair Refining Company

Gas Engines—
S. M. Jones Company

Gas Traps—
Continental Supply Company
Smith Separator Company
Trumble Gas Trap Co.

Gasoline Extraction Compressors—
Bessemer Gas Engine Co.
Continental Supply Company
Hope Engineering & Supply Co.
Sullivan Machinery Co.

Gasoline and Oil Storage Tanks—
Butler Mfg. Co.
Graver Corporation
Continental Supply Company
Kansas City Struct. Steel Co.
Parkersburg Rig & Reel Co.

Gauges—
Continental Supply Company
Oil Conservation Engineering Co.

Generators—
R-F Electrical Mfg. Co.

Genuine Wrought Iron Casing—
Reading Iron Co.
Superior Tube Co.

Geologists—
Alexander Deussen
David Donoghue
Edwin B. Hopkins
Foster & Reiter
Heath M. Robinson

Grips and Clamps—
Continental Supply Company
J. P. Ratigan
W-K-M Co.

Heat Exchangers—
Brown Welding & Machine Co.
Hope Engineering & Supply Co.

Hoists—
Alamo Iron Works
Emsco Steel Products Co.

Hose—
Continental Supply Company
D. F. Connolly Agency

Houses—
Crain Ready-Cut House Co.

Laboratory Equipment—
Continental Supply Company
Fort Worth Laboratories

Lapwelded Steel Boiler Tubes—
The Tyler Tube & Pipe Co.

Lighting Systems—
Bridgeport Machine Co.
Continental Supply Company
R-F Electrical Mfg. Co.
Westinghouse Elec. & Mfg. Co.

Line Pipe—
Continental Supply Company
Republic Supply Co.
Reading Iron Co.
Superior Tube Co.

Lumber—
Robertson-McDonald Lumber Co.

Manufacturers—
Robinson Packer Co.

Maps—
Heydrick Mapping Co.

Meters—
Continental Supply Company

Motors—
Twin City Company
Westinghouse Elec. & Mfg. Co.

Oil Field Supplies—
Bridgeport Machine Co.
Butler Mfg. Co.
Continental Supply Company
D. F. Connolly Agency
The Cunningham Company
Frick-Reid Supply Co.
Graver Corporation
Gulf Coast Mach. & Sup. Co.
Erle P. Halliburton
International Supply Company
Kansas City Struct. Steel Co.
Lee C. Moore & Co.
Lucey Manufacturing Corp.
The National Supply Cos.
Oil Well Supply Company
Parkersburg Rig & Reel Co.
Peden Iron & Steel Co.
Pelican Well Tool & Sup. Co.
Republic Supply Company
Regan Forge & Engineering Co.
Robinson Packer Co.
Smith Separator Company
Southern Brass Mfg. & Plating Co.
Superior Tube Co.
United Iron Works, Inc.
W-K-M Co.

GUIDE FOR PURCHASERS—Continued

Oilwell Casing—
Continental Supply Company
Frick-Reid Supply Company
Republic Supply Company
Superior Tube Co.

Oil Well Cementing—
Erle P. Halliburton

Oil Well Shooting—
U. S. Torpedo Co.

Overshots—
Baash-Ross Tool Company
Continental Supply Company
LeBus Rotary Tool Works

Packers—
Continental Supply Company
The Guiberson Corp.
Layne & Bowler
Robinson Packer Co.
Pelican Well Tool & Supply Co.
Regan Forge & Engineering Co.
Rhodes Master Packing Co.
W-K-M Co.

Packing—
Continental Supply Company
D. F. Connolly Agency
Frick-Reid Supply Co.
The National Supply Cos.
Peden Iron & Steel Co.
Pelican Well Tool & Sup. Co.
Republic Supply Company
Rhodes Master Packing Co.

Paints—
Continental Supply Company
Peden Iron & Steel Co.

Panel Boards—
Westinghouse Elec. & Mfg. Co.

Patents—
Hardway & Cathey
Jack A. Schley
Jesse R. Stone

Pipe Grips—
Continental Supply Company
W-K-M Co.

Pipe—
A. M. Byers Co.
Continental Supply Company
W. E. Detlor
Frick-Reid Supply Co.
F. W. Heitmann Co.
Harrisburg Pipe & Pipe Bending Company
International Supply Co.
The National Supply Cos.
Oil Well Supply Co.
Peden Iron & Steel Co.
Reading Iron Co.
Republic Supply Company
Superior Tube Company
Williamsport Wire Rope Co.

Pipe Screwing Machines—
Buckeye Traction Ditcher Co.
California Pipe Line Machine Co.

Pipe Threading Machine—
Standard Engineering Company

Pipe Wrenches—
Continental Supply Company
Dunn Mfg. Co.
The Guiberson Corp.
LeBus Rotary Tool Works
Republic Supply Company

Portable Buildings—
Butler Mfg. Co.
International Derrick & Equipment Company

Portable Compressors—
Continental Supply Company
Sullivan Machinery Co.

Portable Drilling Rigs—
Bridgeport Machinery Co.
Continental Supply Company
Lee C. Moore & Co.
Oil Well Service Co.
Parkersburg Rig & Reel Co.
The National Supply Cos.

Pulleys—
Continental Supply Company
International Derrick & Equipment Company
Lee C. Moore & Co.

Pulling Machines—
Clark Machine Co.
Continental Supply Company
Iron King Mfg. Co.
Safety Pulling Machine Co.

Pumps—
Axelson Machine Co.
Bradford Motor Works
Continental Supply Company
D. & B. Pump & Sup. Co.
Frick-Reid Supply Co.
Gaso Pump & Burner Mfg. Co.
Goulds Manufacturing Co.
Lucey Manufacturing Corp.
National Transit Pump & Mach. Co.
Oil Well Supply Co.
Pelican Well Tool & Supply Co.
Republic Supply Company
The Reschke Machine Works Co.
Southern Engine & Pump Co.
Texas Oil Pump Co.
United Iron Works, Inc.

Pumping Powers—
Continental Supply Company
Frick-Reed Supply Co.
International Supply Company
Jensen Bros. Mfg. Co.
Kansas City Hay Press Co.

Refined Products—
Gulf Refining Company
Humble Oil & Refining Co.
Sinclair Refining Co.

Recorders—
Fort Worth Laboratories

Refinery Equipment—
Butler Mfg. Co.
Continental Supply Company
Graver Corporation
Kansas City Struct. Steel Co.
Oil Conservation Engineering Co.
Republic Supply Company
Smith Separator Company
Titusville Iron Works
United Iron Works, Inc.
Wyatt Metal & Boiler Works

Refined Products—
Magnolia Petroleum Company
Texas Company

Rig Irons—
Continental Supply Company
International Supply Co.
Lee C. Moore & Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Republic Supply Company

Rotaries—
International Supply Company

Rotary Rock Bits—
Continental Supply Company
Hughes Tool Co.

Rotary Fish Tail Bits—
Continental Supply Company
Pelican Well Tool & Supply Co.
Regan Forge & Engineering Co.
Republic Supply Co.
W-K-M Co.

Separators—
Butler Mfg. Co.
Continental Supply Company
Smith Separator Company
Trumble Gas Trap Co.

Structural Steel—
Butler Mfg. Co.
Kansas City Struct. Steel Co
United Iron Works, Inc.

Steel Derricks—
Continental Supply Company
Emsco Steel Products Co.
International Derrick & Equipment Company
Lee C. Moore & Co., Inc.
Superior Tube Co.

Steel Crown Blocks—
Continental Supply Company
Gulf Coast Mach. & Sup. Co.
International Derrick & Equipment Company
Lee C. Moore & Co., Inc.
Parkersburg Rig & Reel Co.
Superior Tube Co.

Steel Manufacturers—
Colonial Steel Co.

Steel Storage Tanks—
Butler Mfg. Co.
Continental Supply Company
Graver Corporation

Sucker Rod Lines—
D. F. Connolly Agency
Continental Supply Company

Sucker Rod Elevators—
The Cunningham Co.

Strainers—
Continental Supply Company
Emsco Steel Products Company
Layne & Bowler Co.
J. H. McEvoy & Co.
Pelican Well Tool & Supply Co.
W-K-M Co.

Sucker Rod Hooks—
The Cunningham Co.

Sucker Rod Sockets—
Bradford Motor Works
Continental Supply Company
The Cunningham Co.
Brown Welding & Machine Co.

Sucker Rods—
Axelson Machine Co.
Columbus Sucker Rod Co.
Continental Supply Company
D. & B. Pump & Sup. Co.
Dunn Mfg. Co.
Frick-Reid Supply Co.
S. M. Jones Co.
The National Supply Cos.
Oil Well Supply Company
J. P. Ratigan
Republic Supply Company

Swabs—
Continental Supply Company
The Cunningham Co.

Tank Bolts—
Continental Supply Company

Tanks—
American Tank Co.
Butler Mfg. Co.
Black, Sivalls & Bryson
Columbian Steel Tank Co.
Continental Supply Company
The Brownell Co.
Gantz Tank Co.
Graver Corporation
Kansas City Structural Steel Co.
Maloney Tank Co.
Parkersburg Rig & Reel Co.
Petroleum Iron Works
United Iron Works
Wyatt Metal & Boiler Works

Tank Deadwood—
Robertson-McDonald Lumber Co.

Tank Equipment—
Continental Supply Company
Oil Conservation Engineering Co.

Temper Screws—
Burns Tool Co.

Thermometers—
Continental Supply Company
Fort Worth Laboratories

Timbers—
Robertson-MacDonald Lumber Co.

Tongs—
Bridgeport Machine Co.
Continental Supply Company
Dunn Mfg. Co.
Guiberson Corp.
LeBus Rotary Tool Works
Pelican Well Tool & Supply Co.
Wilson & Willard Mfg. Co.
W-K-M Co.

Tool Joints—
American Well & Pros. Co.
Baash-Ross Tool Company
Boykin Machinery & Sup. Co.
Bridgeport Machine Co.
Continental Supply Company
Emsco Steel Products Co.
Hughes Tool Co.
Pelican Well Tool & Sup. Co.
Regan Forge & Engineering Co.
Republic Supply Co.
W-K-M Co.

Tools (Fishing and Drilling)—
Bridgeport Machine Co.
Brown Welding & Machine Co.
Continental Supply Company
Frick-Reid Supply Co.
Hughes Tool Co.
International Supply Co.
Oil Well Supply Co.
Peden Iron & Steel Co.
Pelican Well Tool & Supply Co.
Regan Forge & Engineering Co.
Republic Supply Company
Star Drilling Machine Co.
Sullivan Machinery Co.
W-K-M Co.

Toothless Slips—
LeBus Rotary Tool Works

Tractor Winch—
Rock Island Plow Co.
Twin City Company

Traveling Blocks—
Baash-Ross Tool Company
Boykin Machinery & Sup. Co.
Continental Supply Company
Gulf Coast Machine & Sup. Co.
Lufkin Foundry & Machine Co.
Regan Forge & Engineering Co.

Tret-O-Lite—
W. S. Barnickel & Co.

Tubing Catcher—
Continental Supply Company
Dunn Mfg. Co.
Guiberson Corp.

Tubing Lines—
Continental Supply Company
D. F. Connolly Agency

Tubing—
Continental Supply Company
Republic Supply Company
Reading Iron Co.
Superior Tube Co.

Underreamers—
Bridgeport Machine Co.
Continental Supply Company
Wilson & Willard Mfg. Co.

Vacuum Pumps—
Continental Supply Company
Sullivan Machinery Co.

Valves—
Bradford Motor Works
Continental Supply Company
Darling Valve & Mfg. Co.
The Charles N. Hough Mfg. Co.
Texas Oil Pump Co.
Ludlow Valve Mfg. Co.
Oil Conservation Engineering Co.
The Wm. Powell Co.
Pratt & Cady
Reading Steel Casting Co.
Reading Valve & Fittings Co.
Smith Separator Company
Sour Lake Machine Co.
Southern Brass Mfg. & Plating Co.
Westcott Valve Mfg. Co.
W-K-M Co.

Valves and Fittings—
Continental Supply Company
Darling Valve & Mfg. Co.
D. & B. Pump & Sup. Co.
Ludlow Valve Mfg. Co.
Lufkin Foundry & Machine Co.
The National Supply Cos.
Peden Iron & Steel Co.
The Wm. Powell Company
Pittsburgh Reinforced Brazing and Machine Company
Pratt & Cady
Republic Supply Company
Reading Steel Casting Co.
Reading Valve & Fittings Co.
United Iron Works
W-K-M Co.

Walking Beams—
Continental Supply Company
International Derrick & Equipment Company
Lee C. Moore & Co., Inc.

Welding and Cutting Equipment—
Continental Supply Company

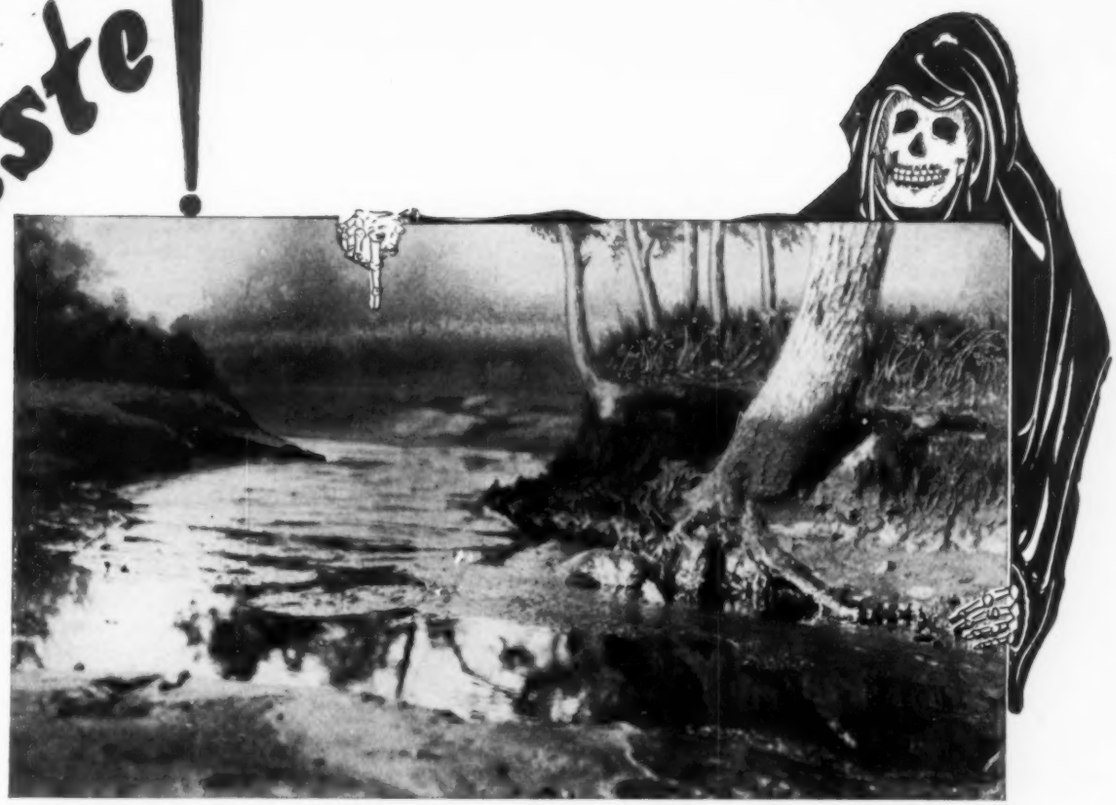
Working Barrels—
Axelson Machine Co.
Bradford Motor Works
Continental Supply Company
D. & B. Pump & Sup. Co.
Republic Supply Company
The Charles N. Hough Mfg. Co.
Southern Brass Mfg. & Plating Co.
Texas Oil Pump Co.

Water Gauges—
Continental Supply Company

Water Cans—
Continental Supply Company
H. P. Gott Mfg. Co.

Wire Rope—
American Cable Co.
Bridgeport Machine Co.
D. F. Connolly Agency
Continental Supply Company
International Supply Co.
Regan Forge & Engineering Co.
Republic Supply Company
The National Supply Cos.
Williamsport Wire Rope Co.

Waste!



For miles this stream was covered with B. S. and cut oil. This was a general condition of the streams passing through oil fields until the Tret-O-Lite process was introduced.

IF YOU DISCARD "B. S."

—*you are throwing away dollars*

You Can Prevent "B. S."

TRET-O-LITE has long been used to CURE "B.S." It is now also being used to PREVENT its accumulation. When mixed with oil as it flows from the well, it brings about a clean break in the storage tank, wnere formerly a "B. S." residue was formed. Above is shown a "Tret-O-Lizer" for insertion on flow lines.

The tremendous waste of "cut oil" of the early days was first halted by the introduction of Tret-O-Lite.

Vast quantities of "cut oil" no longer flow down the streams; but a great waste continues, nevertheless, through the discarding of "B. S." containing petroleum. Some producers will not trouble to treat 1 to 5% of B. S., but simply discard it. Others, in treating "cut oil", use unscientific methods which leave a "B. S." residue that is then discarded.

Such "B. S." can be economically collected and treated with Tret-O-Lite and its petroleum completely recovered. Ask us for particulars.

WM. S. BARNICKEL & CO.

St. Louis, Mo.

Offices and Plant: Webster Groves, St. Louis Co., Mo.

Tret-O-lite

Reg. U. S. Pat. Off.

And because of their ability to go through the hardest of rock, they are likely to be of great assistance in "bringing in" the new pool.

Distributed universally for sale or rent by the Continental Supply Co., Leidecker Tool Co., International Supply Co., Drillers Supply Co., Farley Machine Works Co., and the Bridgeport Branches.

THE BRIDGEPORT MACHINE COMPANY

General Offices and Works WICHITA, KANSAS